## Contents

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>5</td>
</tr>
<tr>
<td>Joe Meppelink Driving into the City</td>
<td>6</td>
</tr>
<tr>
<td>Lisa Iwamoto Line-Work</td>
<td>12</td>
</tr>
<tr>
<td>Fernando Luiz Lara Designing With a Single Line</td>
<td>18</td>
</tr>
<tr>
<td>Jennifer Burke + Shannon B Sipperley el toro</td>
<td>24</td>
</tr>
<tr>
<td>Meghan Walsh Architecture in the Context of Development</td>
<td>28</td>
</tr>
<tr>
<td>Lisa Belian A [Sub]urban Foyer</td>
<td>36</td>
</tr>
<tr>
<td>David Wang &quot;Roundness&quot; in Alberti and Bachelard: A Linear or Symphonic Theme?</td>
<td>40</td>
</tr>
<tr>
<td>Ernst Giselbrecht A Dialogue with Ernst Giselbrecht: The Detail</td>
<td>56</td>
</tr>
<tr>
<td>Patrick Kanary [De][Re]generative Architecture: Stalking the Detroit Ordinary</td>
<td>64</td>
</tr>
<tr>
<td>Hina N Jamelle Shahadas Monument Design Competition. Karachi, Pakistan</td>
<td>70</td>
</tr>
<tr>
<td>Catherine Seavitt The Steeples of Martinville or, Marcel Proust draws the (abstract) line</td>
<td>74</td>
</tr>
<tr>
<td>A Documentation of Fourteen Moments along the Trans-Siberian Railway</td>
<td>80</td>
</tr>
<tr>
<td>Craig Borum Tidal Measures</td>
<td>84</td>
</tr>
<tr>
<td>Leslie Lyn Stein An Archive for Prague</td>
<td>90</td>
</tr>
<tr>
<td>Brian Healy Poetic Vacancies</td>
<td>96</td>
</tr>
<tr>
<td>Deborah Kulay The Liquid Line: becoming Ulysses</td>
<td>104</td>
</tr>
<tr>
<td>James Wild A Bridge to Florence</td>
<td>112</td>
</tr>
<tr>
<td>Paul Warner + Craig Synnestvedt Silva Studies</td>
<td>118</td>
</tr>
<tr>
<td>Laurie Hawkinson Back to the Front: an Interview with Laurie Hawkinson</td>
<td>128</td>
</tr>
<tr>
<td>Chris Knapp An Archive for a City Like Prague</td>
<td>136</td>
</tr>
<tr>
<td>Craig Scott Lines of Site: Between Figuration and Abstraction</td>
<td>140</td>
</tr>
<tr>
<td>Tarek N Qaddumi design =f (analysis, transformation)</td>
<td>148</td>
</tr>
</tbody>
</table>
DIMENSIONS v.11
Journal for the College of Architecture + Urban Planning at the University of Michigan

Dimensions invites Students, Students, and Professionals affiliated with the University of Michigan to submit writings and design projects that speak about the "Line" as not merely a tool in architecture, but as embedded in the arts, literature, and urbanism. Dimensions is accepting design projects not relating to "Line" directly.

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Deadline for submissions is January 20, 1997
Introduction

This journal is like an envelope inside of which has been placed a collection of projects and thoughts. These thoughts and projects are connected to one another by the concept of the line which is more than a tool that we harness for architectural representation but also one which can be harnessed to stimulate a discussion which potentially thickens and deepens the field of architecture. Instead of acting as the membrane for a homogeneous set of planned compositions, this journal fuses together multiple readings of the line and looks at how criticism will always engage the collective.

The band of text at the bottom of each page lining the entire journal is a transcription of a conversation which took place on March 15, 1997 among the Dimensions staff after having read the submitted work. This conversation, is yet another grafting together, a recording of architecture. This discussion was an attempt to understand our world and what issues the academy faces today. The text also works as an armature in, along and through which we can engage architecture and the world in which it sits in a critical conversation.

Bryan Brown, 
Editor

Bryan Brown received his B.S. in Urban Planning from Iowa State University 1994, and is a candidate for an M.Arch. degree at The University of Michigan

What I had thought was that we would have some kind of discussion about the line. / Or this becomes •
discussion about someone's use of a metaphor of the line and it becomes compounded through other discussions and somebody might g
Driving into the City
Joe Meppelink

Returning home in my car one morning, I was confronted with two walking people. I had to change lanes, and as I did so it occurred to me how out of place those two seemed in walking down South Main Street. This is a four lane road, by the way. Five, if you count the turn lane (although there is no place to turn on this stretch for about a half mile; no doubt this contributes to the alien sensation of these two people). So there they were—on the street. They were without that added layer which makes viable our presence on the more linear thoroughfares (a city street, by nature of its engendered activity, is less linear than the divided highway, which is so linear it cannot afford a turn lane). These two people acquired a strangeness gained through misdirection. They became subjects of query as anything or anyone so blatantly misplaced does. So it goes for those who, by misfortune or by choice, find themselves without their armor. Drug addicts, troubled youth, hitch hikers: they are all out on the street.

This phenomenon presents a strange polemic; that (experience) of urban and ex-urban streets. Our cultural bias has placed the urban degenerate "on the street" while this urban environment commonly affords a more dynamic, engaging experience, as opposed to the frustration of being entrenched in suburban linearity. Beyond the assertion that the automobile is both an artifact of class division and a definition of self (in fact this is not an assertion, but tacit knowledge), there exists a dialectic which remains unresolved involving the presence of a car-clad and line-biased population and the (urban, pedestrian) phenomenon of a planar or omnidirectional experience.

This essay, an attempt to understand, seeks to measure the linear referent of our car windshields against the experience of a one-to-one engagement of an urban environment. Each of these circumstances presents separate notions of self, spatial relations, and material awareness (ambiance). The intersection of these "notions" will also be essayed in an attempt to define the conditions of overlap or boundary which are the intermediaries between the linear and planar—improperly distilled terms to inscribe two modes of experience.

Joe Meppelink received his B.S. in Architecture in 1995 from The University of Michigan.
Feelings of agitation—of closeness, tension, and transferal of personal space to the shell of the car are not uniquely personal. In fact, this is a wholly American sensation of mistrust engendered both by the vastness of our topography (the horizon: the target of a linear perspective generated by freeway travel), and the armoring of society in mobilizing suits of mass production. This sensation is acted out when there is an interference in one’s expanded personal space, e.g., someone following too close [get off my ass]. Those without “armor” are in a state of misfortune, although this protection is not without some heaviness. In fact, true advantage in our society is associated with the choice of whether or not to wear [drive] it as well as what kind to wear.

A current television commercial for the GMC Yukon portrays this vehicle floating hundreds of feet above what appears to be dense New York rush hour traffic. This is how you feel (I noticed on a subsequent viewing of this ad that the qualities of this vehicle are spoken of in the first person; it is unclear whether the Yukon itself or the driver is orating...). The next scene, from within the vehicle, portrays the gracious acceptance (consuming) of a steadily productive conveyor belt of groceries, luggage, and other commodities through its rear bifold gates and into its cavernous interior. This vehicle’s size is amplified through the personal qualities of driving in a position of confidence and authority with your head a good foot or two above the person next to or behind you [get off my ass], and being able to consume, with the help of this exoskeleton, more than anyone.

Other choices offer the seductive attributes of quickness, agility, and safety. The new Cadillac Eldorado will “unchain your heart...allow you to live without limits”. It is interesting that to further implicate a sense of self, this television commercial projects the virtues of its product into the centermost (both anatomically and allegorically) organ of our bodies. Our society is busy mass-producing this sense of self from the outside in.

In this circuitous method, personal space has been redefined to the point of a necessary requalification of our immediate environments. It goes without saying that one should not be in the path of cars—this is one of the first lessons of childhood and paranoias of parenthood. The segregation of armored and unarmored people is more complex, though, than mere issues of separation and safe distance. The state of being socially degenerate and “on the street” are two quite compatible modes. A morning jog on the freeway, by contrast, is odd if not oxymoronic. The fundamental disparity is one of experience: the person on the street is

1Subjected refers to being acted upon. This is true not only of the relationship that a person on the street has with cars, but of the relationship with ones environment that is possible without the added weight of automotive armor.

2Space as used here is a relative term which in fact refers to a planar condition biased toward the act of presentation en masse.
I am referring to the urban environment as a forum for social interaction, which, considering the degree of abandonment and vacancy in my nearest model (Detroit), may seem inappropriate. The city does maintain a sense of intense social activity, which, even if isolated in discrete areas such as Greektown, Fox Theater, Cobo Hall, etc., can still be noted as "urban" and "active".

It is interesting to note that for reasons of personal safety and environmental comfort, freeways are often elevated or sunken within urban environments. This also provides an ambient insulation between the linear and planar "modes" of experience. The comforts of linear travel can be preserved with devices such as elevated walkways between buildings and the people mover—an elevated monorail loop connecting the "Ren Cen" to other things in the city like Cobo Hall and Greektown.

Car travel yields an essentially conical field of vision: information to either side is accelerated (relatively) to a blur. The viability of space is determined by angles of incidence; by inclusion into this cone of vision. This exemplifies the success of the Marlboro man billboard (pictured in sequence) on I-94 heading into Detroit. But the success of this billboard has been recently compromised. Its potency is reduced along with the scale of the new Marlboro man (simply a smaller reproduction: a full body shot rather than the familiar head and torso). Gone is the sense of intimacy gained in seeing the haggard face bigger than life. I can no longer discern the pockmarks, the stubble, the gruff voice waiting to speak; to lay down the law of image consumerism and high speed travel to the little doagies below: "get along ".

As the highway curves by the Marlboro billboard and I crane my neck ("rubbernecking" is discouraged on such high speed linear thoroughfares...) to watch the image give way to structural steel framing, a (sectional) sense of the spatial acuity of this linear environment arises. It is this sectional (and often blurred) reading which is evidence of the condition of boundary that is implicitly defined by anything linear. The visual bias of the linear / conical field is graphed accurately if not superficially by our highway-built architecture / advertising: it is apparently blatant, but sectionally it is compelling as a self-transformation (as image gives way to edge-view) as well as a boundary between linear and planar environments.

The concern with urban environments arises out of a simple necessity: you can't walk into a city, you must drive. To penetrate the metropolis one must have his or her armor. One must succumb to the linear referent prior to any social intercourse. How does this affect a reading of an urban environment? I can't believe that the experience of the freeway is more powerful than that of the city. Perhaps the level of comfort established by driving is at odds with the anxiety of moving slowly, even walking, in an urban environment. Nobody chooses a life on the street.

In our cars, we touch the same things over and over again; the ambiance is relatively static (as it is at home in one's favorite chair, but to "go out" is to first travel by car...) Is this a necessary environmental buffer in our society? (Yes.) Undeniably, it feels much more secure to park and then have a known distance to walk. Ideally, you minimize your exposure by driving directly from the linear "stasis" of the back of your mind, you could keep it so that it becomes a part of your discussion, but not central to it. Because it would have helped me in
highway to a parking structure. For example (again heading into Detroit), the Lodge freeway—a sunken, and toward its end, elevated, freeway allows the incoming herds to enter Detroit proper without ever touching the ground (the planar experience of being on the street) until one is again in a comfortable chair.

As one becomes increasingly aware of the edge view, the view antagonized by our comfortable and stealthy movement and the relative reduction to blurriness, a sense of material essence develops. This sensation is neglected by the ubiquitous spatial bias toward presentation on the highways. This bias is two dimensional, and as I've mentioned, rubbernecking is discouraged for reasons of public safety. The realization of texture versus the blur is the cathartic moment in high speed travel. To pursue these material ambiances is not to speed up but to slow down. There is a trade off between the static ambiance and comfort of your car and the dynamic ambiance of pedestrian (urban) environments. The material awareness particular to the planar or omnidirectional experience is obtained through exposure, discomfort, and anxiety.

A sense of self, as suggested earlier, can be derived from cars. Likewise, a sense of self has been assigned to those without cars. Within the Federal Empowerment Zone district (a 18.35 square mile district denoted by extremes in poverty, abandonment, and economic hardship) in downtown Detroit, 53 percent of residents are "without". Only the proximity of two people on a pedestrian unfriendly road brought to light the disparities in experiences one can have on the street. The social misplacement of the degenerate classes to the street makes equally suspect the activities of meandering, loitering, and soliciting in and about the dynamic ambient condition of the urban street. A one-to-one engagement of the city has become a position without advantage ("rubbernecking", or attempting to discover the sectional qualities of the linear environment, is a corollary activity of equally dubious acceptance). Therein, however, lies the intrigue and anxiety of a materially, socially, and spatially dynamic environment beyond the boundary condition that Americans define daily.
Highway architecture? Special-ness of highway, the grid it intersects.

Sectional deviation: sunken, elevated freeways.

The slowing down on exit ramps; re-focusing the sectional qualities. The sudden introduction of a new array of not only sights, but sounds, smells, textures, ambiances.

Tendril quality of highway ramps, sectional (duality) of highway from inside the highway, from outside the highway (out on the street...)

In our cars we touch the same things over and over again; the ambiance is relatively static just as it is at home or in one's favorite chair, but to "go out" one must first travel by car. Is this a necessary buffer in our society? [Yes.] Undeniably, it feels much more secure to park and then have a known distance to walk. Ideally, you minimize your exposure by driving directly from the linear "stasis" of the highway to a parking structure. For example [again heading into Detroit], the Lodge freeway, a sunken and toward its end, elevated, freeway allows the incoming herds to enter Detroit proper without ever touching the ground (the planar experience of being on the street). The comforts of linear travel can be preserved [with devices such as elevated walkways between buildings and the people mover—an elevated monorail loop connecting the "Ren Cen" to other things in the city like Cobo Hall] until one is again in a comfortable chair.

slowing down—ambiances.

The realization of texture vs. the blur.

material awareness (exposure)

Last section—a sense of self: the misfortuned. being on the street.

social stigmata (empowerment zone stat on [lack of] transportation)

The equally suspect activities of loitering, meandering - the one-to-one engagement of the urban environment (a position without advantage).
...the things that the bottom text wanted to be was not an inserted project into this inserted grid or not to this predefined grid, but
The imagination looms large here, but it is imagination construed, I have to admit, in an odd way: an imagination not located solely in the mind of the architect. Reference has already been made to the active imagination of the observer of the drawing; there is also an active imagination in the drawing itself. This has nothing to do with the mental faculty of imagining. Obviously, drawings do not think. But because a drawing technique like orthographic projection was itself a product of intense imagination, this massive effort of imaginative intelligence lies dormant in it, animated to lesser or greater effect and to various ends every time the technique is used.

Architectural drawing, largely based on orthographic projection, can be thought of as not only a set of conventional codes by which we represent space and form, but also as medium which conditions the way we are able to see space, and therefore engage in the production of architecture. The 'traditional set': plan, section, and elevation, codified during the Renaissance, were the most efficient means to describe Classical architecture. These three could effectively describe bi-axially symmetrical and centrally hierarchical buildings, in this respect, implicitly support this formal arrangement. As a dominant means by which architects convey and develop built form, these drawings are a “powerful, conservative, forming agency” in the making of architecture. While this implies a constrained potential for their use, Evans also suggests the capacity for these drawings to exert their own critical method of engaging the observer—the ability to create an awareness that the conventional, normative practice of representation is not necessarily an objective or seamless translator in the act of design.

This project attempts to reveal the constructed nature of orthographic projection. The drawings presented below investigate alternatives to the conventional parameters of projective space and the single, penetrating view of the building established by the cut. The action of the cut offers an isolated and overall image of the work that forces the viewer's separation and detachment; it gives a singular view of the building at an instant. Similar to this and other forms of parallel projection, such as axonometry, the drawing investigations here attempt to suggest a particular reading of space. Yves Alain Bois suggests axonometry proposes a modernist conception of universal and abstract space where the viewer is allowed to rove the building as an object.7 In this case, the projections allow the viewer's position to fluctuate and, as elements, sometimes appear to be consistent perspectival constructions, but whose projective system refuses to situate either the viewer or the building at a single moment.

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PROJECT: PRIMARY CARE CLINIC

By looking at the program of a primary care clinic, this project examines architectural representation as a means of rethinking the nature of institutional space. There is an intimate relationship between the forms of representation used to define and understand the body in Western medicine, and those used to define and understand space architecturally. In *The Fabrication of Virtue: English Prison Architecture, 1750-1840*, Robin Evans correlates the typological development of prisons as freestanding buildings with the act of designing through planimetric organization of space. He notes that the layout of these institutions became increasingly axial, ordered, and symmetrical, corresponding to a way of thinking about reform at the time, and to the use of 'plan making' as a method of designing. Not only were these buildings conceived of as places of authoritarian control, but the means in which they were designed and represented was also given over to the eye of an external authority. Similar to the institutional building type of prisons, buildings for the medical profession clearly articulate their close relationship to the institutional programs which define them.

As a way to reconsider the possibilities associated with this, Chinese medicine, having been formed independently from the Western medical practice, offers an implicit critique of our medicine and its architecture—an architecture that responds to the profession's belief in division, separation, categorization, isolation, extraction, and incision. The process of looking at and understanding the body objectively is central to the way in which health is understood in Western medicine. The body is drawn in pure anatomical correctness, cut in plan and section, objectified, and given over to an external viewer. It is then further categorized, dissected, and severed from the whole of the body fabric. Conversely, the way the body is understood in Chinese medicine is that of a relational whole. The body is drawn abstractly and notationally. It is understood through the systems that define it and their effects, rather than through physical elements and anatomical correctness. This form of representation serves as a model to rethink the way drawing is used in the development of this project.

have those articles in front of us, it just becomes a room discussion. It seems like now it's becoming a discussion in a room, but it could a
Cutting, the surgical cut, the architectural cut, is a primary way in which a building is revealed and opened for analysis. The cut looks at an instance of internal spatial relations. The drawings shown here are manifestations of a process which use the possibilities of the sectional cut and parallel projection to look at the position and sequence of the occupant, the incidental experiences within the clinic, and the potentially fluctuating position of the viewing subject. The experience of moving through the building, and back into space, are pulled out through projective means. Although parallel projections, they do not necessarily follow singularly consistent rules as multiple surfaces can be seen together, and related events are shown simultaneously regardless of their position in space.

This series of drawings, and their use in developing the spaces of the clinic, also corresponds to the conception of the program as a sequence of relational pieces. These programmed spaces are reconsidered with respect to their defining boundaries. The reading of 'room' changes dependent upon the occupation of adjacent spaces and the position of the user. Where the physical location of the room may stay the same, its relationship to other spaces perceptually alters to effectively reconfigure its location and situation. In this respect, the mercurial condition of the occupant attempts to align with that of the external viewer.

Still leak out of here which we might be in that. Like what we say in this room is added to that bottom thing as just a recording of a few
People sitting in a room. / So this is a discussion in Sal's think tank. / Is that clear? As I guess we've just finished our discussion. Why don't we get started?
we start by having Debbie explain what the reason for these articles... / I think we are going to put what we just said in there too. Bec
Des ignin g Wit h a S ingl e Line Lin e as a f or m generato r in the work of Oscar Niemeyer

Fernando Luiz Lara

Oscar Niemeyer had his international architectural debut in 1939, with the Brazilian Pavilion at the New York World Fair. Since then, he has gained world-wide recognition through the light and curvilinear free-forms of his major designs. Named by Nikolaus Pevsner as the first "anti-rationalist" architect beyond the Modern Movement, the work of Niemeyer can be analyzed as a variant of Corbusier's guidelines, from which he differs by focusing on the LINE as the main form generator.

Starting from the influence of the French Master in the early 1930's, Niemeyer's designs gradually went beyond the modernist dogmas by searching for a combination of avant-garde ideas and his Brazilian colonial baroque heritage. Such regional/international blending is attributed to the influence of Lucio Costa's ideas on Niemeyer's career. Costa was responsible for some key moments in Niemeyer's work such as his first contact with Le Corbusier, the invitation to join him in the design of the Brazilian Pavilion at the New York World's Fair and their collaboration in the design of Brasilia's governmental buildings. Costa intellectually sewed his Brazilian heritage together with the modernist principles. However, Niemeyer's contribution was the materialization of hybrid architecture which stepped away from rigid modernist rules.

As Costa recalls in his recent collected-papers edition, "Oscar did not exist before Corbusier's visit". The French Master was the first to see some special characteristics in the young trainee at Costas's office, during the preliminary design for the MEC building in July/August, 1936. According to Costa, Corbusier found in Niemeyer a constant assistant. He often called him to draw perspectives and interior views of the buildings they were proposing. Although their styles were similar, their sketching techniques were quite unique. While Niemeyer's sketches seem lighter and more fluid, Corbusier's sketches present shades and textures.

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The author thanks Leticia Marteleto, Raul Smith, Zeuler Lima and David Wang for their careful review and useful comments.
As stated by Luiz A. Passaglia, we should consider the emphasis on academic drawing in order to understand the development of the early modernist generation in Brazil. Until 1930, the ENBA (Brazilian School of Beaux-art) still adopted the 19th century academic approach to architectural teaching, with a strong emphasis on classical figurative drawing. This was changed in 1930 when the curricular reformulation led by Lucio Costa introduced the Bauhaus and Corbusier’s ideas. According to Passaglia, the early generation of Brazilian modern architects took advantage of the strong domain of classical drawing and the new architectural freedom of avant-garde ideas to create the outstanding examples of the 1930’s and 1940’s in Brazil.

Oscar Niemeyer is the greatest exponent of this first generation. Having entered ENBA while the changes were being made by Lucio Costa, the emphasis of his formative years were towards new design strategies. Consequently, he developed a looser sketching style which was not valued by his teammates at that time. It was only after Corbusier’s visit that Niemeyer’s talent was recognized by his own partners.

After being discovered by Corbusier, Niemeyer gained the confidence to work on his own style. Since then, he has used the lightness, continuity, and malleability of the LINE as his main design strategy. During World War II, without contact with his European masters, Niemeyer began to develop a unique design style. Departing from the strong influence of Corbusier’s Five Points, Niemeyer’s ”anti-rational” work advanced, in the 1940’s, some of the same issues raised by Venturi’s Complexity and Contradiction 20 years later.

According to David Underwood, Niemeyer’s contact with Corbusier lead him to experience “the application of the Five Points (pilotis, free plan, free facade, strip windows and terrace roof), the valorization of architecture as a plastic art, the preoccupation with formal matters, and the sensitivity to local conditions, from tropical climate to the artistic legacy of colonial Brazil”.

A few years later, Niemeyer had his first international exposure with the design of the Brazilian Pavilion at the New York World’s Fair, 1939. This design, developed in partnership with Lucio Costa, resulted in a curvilinear, light, elegant, and graceful building. Some of Niemeyer’s trademarks were present, such as the play of water and curving contours. But the free-form was constricted into a box sustained by pilotis combining Corbusier’s VOLUMES and Bauhaus’ PLANES with the introduction of Niemeyer’s LINES.

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5. ibid., p. 23.
In 1942, Niemeyer had the opportunity to engage in a project with complete freedom to materialize his plastic imagination. He was commissioned to design a series of buildings around Pampulha artificial lake, in Belo Horizonte, in the state of Minas Gerais. The designs of Capela da Pampulha and Casa do Baile clearly express the role of the LINE as a form generator in Niemeyer’s buildings. At Capela da Pampulha, the wall and ceiling are not independent but inseparable. The Pampulha Chapel represents a real break with modern dogmas and an overcoming of its rigid principles. An example of this freedom is expressed in the tension produced by the inclined canopy sustained by two very thin curved steel columns in the main entrance. The use of the LINE as form generator allowed Niemeyer to curve Corbusier’s paradigmatic Dom-ino house with the fluency of a pen slipping over paper.

The most powerful example of the use of the LINE as a form generator is the Casa do Baile building. According to Underwood, “echoing the swaying movements of the samba that was to be danced there,” its form fits its function. For the first time, the curve is the dominant motif, and straight lines are almost entirely absent. The meandering canopy that joins the two cylindrical buildings, the main dancing hall, and the restrooms provides the resulting design with a powerful continuity between interior and exterior spaces. Corbusier’s VOLUMES and Mies’s PLANES have been adapted, and the curvilinear LINE appears as the basic element.

As time passed, Niemeyer established a personal style based on the elegance, lightness, and free-form possibilities of the LINE. At Edificio Niemeyer, a residential building in Belo Horizonte named after him, he uses the repetition of a curvilinear horizontal LINE to turn a massive block into an elegant design. The same strategy was applied at the Banco Mineiro da Produção building, also in Belo Horizonte, where horizontal LINES reinforce the corner and work as a brise-soleil for the north facade. Later, in Brasilia, Niemeyer used a symmetrical and rhythmical LINE to achieve the classic solemnity expected of a governmental building. In the Mondadori building, in Italy, Niemeyer used the LINE to provide vertical, rhythmical variations. On the other hand, at the Brasilia’s Cathedral, the LINE was used to point to the sky, achieving a Gothic effect with the rotation of the curvilinear supports.

From the baroque of Pampulha to the classicism of the government buildings and the gothicism of Brasilia’s Cathedral, Niemeyer seems to have followed the historical path backwards. What stays constant, however, remains the idea that the line was based on was basically a dividing line and something that separates things and it’s something that allows for a specif
use of the LINE as a form generator. Blending the principles of Bauhaus and Corbusier with his Brazilian heritage, Niemeyer found in the LINE the basic element to be unfolded as a response to diverse programs and contexts. In doing so, some of his work foreshadows the same complexity and contradiction proposed in the late 1960's.

The complexity and contradiction proposed in Venturi's book can be visually perceived in some of Niemeyer's buildings. Both were strongly influenced by similar traditions: Venturi by the Italian Mannerist pre-baroque and Niemeyer by the Brazilian colonial late-baroque. Venturi proposes a continuity between interior and exterior. Niemeyer's free-form LINE-based designs assembles inside and outside, achieving a powerful spatial result. Venturi suggests the necessity of tensions and inflections in architecture. Niemeyer's use of LINE as form generator pushed the technology at his disposal to its plastic limits by tensioning and inflectioning reinforced concrete.

In choosing the more elemental LINE instead of the PLANE and VOLUME, Niemeyer went beyond the modernist dogmas, achieving levels of complexity that were theorized 20 years later. The rise of free-form is generally associated with the disillusionment with the machine as an aesthetic metaphor after World War II, and evident in the late styles of Frank Lloyd Wright, Eero Saarinen, and Le Corbusier. According to Underwood, "Niemeyer's development of free-form modernism actually preceded that of his European and American contemporaries." The works at Pampulha "show that modernism, especially the type born of the interaction between Corbusian theory and tropical reality, can have as much complexity and contradiction, the duality celebrated by Robert Venturi, as any postmodernist could wish for." 7

From this, we can speculate that the use of an unidimensional element, the LINE, as form generator, allowed Niemeyer to balance the contradiction between modern unity and postmodern complexity. If we reduce the present architectural trends into two formal approaches, Peter Eisenman's strategy based on PLANES and Frank Gehry's strategy based on VOLUMES, the use of LINE emerges as an interesting variant and Niemeyer as a powerful design inspiration.

Sketching for Congress building, Brasilia, 1956.


Pampulha mural tiles

Sketching for Diamantina air terminal.

About linear versus line. / Again, if we're going to have a discussion about the line then... again, it's really abstract to talk about the line...
UIA Barcelona 96
UIA/UNESCO Student Ideas Competition
Housing and Public Space in the Historical Centre of Barcelona

The competition program called for the design of 2 blocks of residential housing and an adjoining 5 blocks of public space. These 7 blocks were taken from the heart of El Raval as part of the city's drive to clear out and rebuild the decaying old city. The 5 blocks of public space form part of a cut that follows a North-South line through El Raval. Our approach to the site focused on the integration of the building with the existing landscape of the neighborhood, and stitched together the cut caused by the new boulevard.
Barcelona

destruction of the city
history erased

eight blocks cut
into the heart
of El Raval

the destruction leaves
a landscape
of exposure
space has been inverted

memory
is maintained
reconstructed
collective and personal
of location moment action

the act is inscribed
amplified in the landscape
following an inherent order

movement
is registered on the ground
becomes legible over time

the structure of the act
is exposed
by alignment with the Cerda grid
an imposed cartesian order

constructed notions
of landscape temporality translucency
woven together
through memory

of the past
of the present
and future

translucency
of intent
and materiality

the act is laid bare
the building exposes itself

the private order
is projected into the public view
the section
is projected into the facade

privacy
occurs through layers depth
landscape

that's drawing going from two directions from one point. / Well, in mathematics the line between two points is not a line, it's a line segm
mediates between actuality and intent
redefines itself as it moves through the site delineating public and private
folding traces of the exposed back into the city
temporality
the flux of memory
inherent shift and change
allows for amplification of the impact of a moment
memory of what has been is preserved at a moment reconstructed around what is allowed to deform through what will be
building a nourishing architecture spatially and programmatically
creating an experience of movement and occupation that allows for a projection of use user existing conditions
commercial residential civic grocery studio theater
What is "Development" anyway?

Prior to the collapse of communist governments in Russia and Eastern Europe, the world classifications of First World, Second World, and Third World were used to describe industrialized capitalist countries, centrally-planned or communist countries, and the remaining countries, successively. These designations had a more hidden meaning of hierarchical superiority with the First World being the best. Third World countries were, and still are to a large degree, seen as backward, primitive, and inferior to the First World in areas extending from technology to culture. Even though it is now outdated to use the term, Third World is still used in conversation to refer to any country that does not have the same level of wealth as the US, Europe, and more recently Japan. Sometimes the term 'developing' or 'undeveloped' is used to describe these countries, but what describes them more accurately is the term 'underdeveloped'. In an article about Latin American development, Andre Gunder Frank says:

It is generally held that economic development occurs in a succession of capitalist stages and that today's underdeveloped countries are still in a stage, sometimes depicted as an original stage, of history through which the now developed countries passed long ago. Yet even a modest acquaintance with history shows that underdevelopment is not original or traditional and that neither the past nor the present of the underdeveloped countries resembles in any important respect the past of the now developed countries. The now developed countries were never underdeveloped, though we may have been undeveloped. It is also widely believed that the contemporary underdevelopment of a country can be understood as the product or reflection solely of its own economic, political, social, and cultural characteristics or structure. Yet historical research demonstrates that contemporary underdevelopment is in large part the historical product of past and continuing economic and other relations between the satellite underdeveloped and the now developed metropolitan countries. Furthermore, these relations are an essential part of the structure and development of the capitalist system on a world scale as a whole. 1

In order to develop Europe and the US, regions of the world such as Latin and South America and the Islands, as well as Africa and South East Asia were exploited for raw materials and human labor. Instead of being 'undeveloped' these places were 'underdeveloped' by the European expansion of global capitalism.

Origins of the Concept of Development

In discussing the idea of development, it is important to recognize the origins and beliefs that direct the understanding of today's concept. Professor Maxwell Owusu writes about development as cultural imperialism:

Right from its inception in the latter part of the 19th century, Euro-American anthropology has shown a serious, consistent comparative interest in global or cross-cultural "development", particularly in the conditions for the rise of industrial civilization. This concern with global development was associated with four closely-related dominant Enlightenment beliefs and Western imperialistic attitudes of the 18th and 19th centuries. 2

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Later Owusu writes, "In a sharp criticism directed mostly at British cultural evolutionists of the 19th century, Julian H. Steward points out critically that the evolutionists reasoned that man had progressed from a condition of simple, amoral savagery to a civilized state, whose ultimate achievement was the Victorian Englishman, living in an industrial society and political democracy, believing in the Empire, and belonging to the Church of England". Although Owusu is discussing the field of anthropology specifically, these beliefs about development extend to the larger society of this era. The field of anthropology originated in response to these outlooks and thus is a reflection of societal attitudes which extend to other disciplines as well.

**Influence of Industrial Development on the Profession of Architecture**

While this egotistical view of development became popular, architecture saw great advancements in technology during the nineteenth century. The industrial revolution brought with it the invention of steel, the light frame structure, and the use of modular building components. As new and different types of buildings were created, and an emphasis on saving time, money, and labor became important, the architecture profession became more specialized, creating an assembly line of the construction industry. The architect became distinct from the engineer, the landscape architect, the builder, and the client. The understanding of designer as form-giver took root at this point in history.

The notion of the cultural superiority of the English Gentleman which developed during the Industrial Revolution combined with an emphasis of architect as artist, brought an elitism into the profession of architecture. The architect was no longer the Master Builder who worked among the common people and laborers on the site of a project, but the omnipotent presence in the tower as portrayed in the 1927 Fritz Lang film "Metropolis".

**A Hunger for Things Western**

In architecture, art, music, and other manifestations of culture, Western bias has pervaded the social psyche of developing nations. A commercial for Levi's jeans that came out in the US in the summer of 1995 portrayed a scene in the Czech Republic where a Czech person wants to trade his Skoda (the typical Czech automobile) for a pair of American-made Levi's jeans. Although this is quite an exaggeration, there is a hunger for things Western in many parts of the developing world. In underdeveloped countries, clients who do have money, want Western architecture and architects who, for the most part, have Western training, are prepared to give it to them. Bar Fez Barrington, an architect and construction manager speaks from his experience in Saudi Arabia: "...US and European design is accepted...in Saudi Arabia, what you see mostly is US and European building design...there is very little traditional influence, and foreigners appear more anxious to perpetuate Islamic tradition than do local architects...."

**Adopting Bad Habits of the West**

In addition to cultural manifestations of style, Western habits of energy consumption are being adopted, presenting a frightening outlook for the future. "A huge issue for the Third World is the energy consumption of US-style buildings. The loads and demands are outrageous. There is the perception of those in underindustrialized countries that American air-conditioning is a Cadillac compared to the..."
ox cart of indigenous climate-control techniques. Those who can afford air-conditioning want it."

Conservation of energy and recycling are often seen as luxuries in developing countries that are struggling to provide proper health care, education, nutrition, and shelter to its people. Western encouragement to adopt environmentally friendly practices is often, and quite understandably, seen as hypocritical. Unfortunately, if these countries follow the path of the developed world which comprises only 20% of the world's population but uses 80% of its resources, the entire planet will be in for a shock when our non-renewable resources are fully expended.

Redefinition of the Role of Architect is Happening in South Africa
Architect Muhammed Mayet of Johannesburg, South Africa stresses the importance of changing this accepted notion of the architect. "It is essential to develop a process-related, socially constructive architecture that responds to context and culture while working within local vernacular. Such an architecture must respect local concerns and respond to the local environment, yet not yield to these factors entirely uncritically. Appropriate strategies need to be carefully defined and opposed to largely unsuccessful First World tactics applied out of context coupled with the disasters of indiscriminate borrowing and a reductive process of observation."

DESIGN COMPONENT OF THESIS PROJECT: HOUSING IN DURBAN, SOUTH AFRICA

Cato Manor
The site for the project is located in Cato Manor, a large section of Durban. Once owned by Indians and Zulus, the apartheid government designed it as a white residential zone and forcibly removed the residents and destroyed their dwellings in the 1960s. Most of the residents were relocated to townships outside of Durban proper. The groups were separated with Indians residing in one area and Zulus were to reside in another. For a number of years, the area remained deserted. With the end of Apartheid, Zulu people from rural areas have been flooding into the area because of its close proximity to the center of Durban with the provides. In architecture we can talk very simply, almost frighteningly too simply, about how you build a wall and you have an inside and
hope of better economic opportunity. These people are squatting on
the land that is not legally theirs, living in shacks with no
infrastructure and a rising crime rate. There are many health problems
resulting from these conditions of squalor.

The South African Government as ruled by Nelson Mandela has
committed itself to the construction of homes as the homeless rate is
astronomical as a result of apartheid. This is an ambitious effort and
has proceeded at a much slower rate than expected at the outset of his
presidency. There are a great deal of land tenure issues due to the
forced removals of the Apartheid that have not yet been resolved.
Housing that is being constructed is very banal and inadequate in
meeting the needs of the community. Typically, housing consists of a
single plot of land for a single family and a single box on that site
which is considered a home. They actually look very much like the
squatter areas except that there is infrastructure (although limited). It
does not address the need for densification in the city and tries to
mimic the rich white suburbs. If development continues in this
manner, the city will continue to spread like an ink blot and still leave
many people homeless and far removed from the city and its economic
opportunities.

Cooperative Housing
The design component of my architectural thesis project is cooperative
housing. I am seeking an alternative approach to development that
abandons traditional Western ideas. Instead of being a master planner,
the architect is a facilitator to the design of a community. The project
is an actual project by the non-governmental organization, Built
Environment Support Group (BESG) at the University of Natal, Durban
and the Cato Manor Development Association (CMDA) also located in
Durban. I spent this past summer in Durban working with a firm
gathering information for my thesis and meeting periodically with an
architect at BESG. I am particularly interested in a holistic approach to
designing housing. I believe there is a need to locate places for
community development at all levels: social, economic, cultural,
political, etc. within the design of residential areas.

Cooperative housing is a term that describes the interconnectedness
of residents with construction, management and decision-making within
the community. The construction of the project will involve the
residents in a system called Mutual Help which has evolved in South
America for similar projects to house people. This system, akin to
Habitat for Humanity, solicits unskilled labor within the prospective
community to participate in construction for X number of hours. In
the Mutual Help system, everyone in the community participates in
the construction of all the units, not just their own. This assures that
each home will receive careful treatment and dedicated participation in
its construction. It also facilitates relationships to evolve amongst
community members even before they move into their new homes.

Site Conditions
The site for the project is the top of a hill that slopes off steeply to the
South. In a rural Zulu settlement, huts are grouped around a circular
space. Huts radiate outward from the center. Inside of the circle, there
are a variety of social gatherings. Some involve religious rituals of
sacrificing animals to please spirits. Zulus place great importance on
ancestors and relationships with their spirits. However, sacrificing
animals is not the only way to pay homage to ancestral spirits. It is
quite common in urban areas to have bryes. Akin to the American
'cookout', these are social occasions in Zulu culture. At times people will give meat and beer as alms to appease the spirits in substitution or in conjunction with an actual sacrifice. The plan for the new community provides a framework for activities that occur in rural areas to continue in an urban setting. The hilltop site lends itself to a configuration reminiscent of the traditional kraal.

Zulu culture is traditionally routed in the landscape. As it is a rural culture, their spiritual beliefs are associated with nature. A prominent cultural tradition for boys going through their rites of passage into manhood is a retreat from the community into the forest for weeks or even months. Other groups, such as Christian Zulus in rural areas, hold masses outside.

In an urban context, there is considerably less land available and the land itself does not bear the same spiritual associations as that of the homelands. However, this site is particularly friendly for the preservation of a spiritual connection to the natural landscape. It is sloped very steeply in areas, forbidding construction. Part of the land is also reserved as a conservation area. The site is moderately forested with gum trees and dense with brush all over the most steeply sloping parts. This scheme takes advantage of its qualities by providing outlets for interaction with nature. This could be one person's retreat to contemplate his place in the community, a meeting with a sangoma, or a group gathering for an outdoor mass.

**Architectural Form**

There is a general insecurity about squatter areas in South Africa that goes beyond that of other underdeveloped countries because of the apartheid government's history of forcibly removing people from lands that are not "legally their own." As a result, a particular "squatter architecture" has not yet evolved as it has in some other developing areas of the world. But there is a great deal of experimentation with building materials as people are beginning to feel more secure. To improve their conditions of squalor, the usual sequence goes from cardboard or scrap wood, to rolled steel or sheet metal, to brick or concrete block, as people get more settled and can afford to upgrade. Additionally, there are people who capitalize on the situation by providing their services as builders or merchants of building materials. In Soweto, a large black township outside of Johannesburg, local vendors sell pieces of buildings on the side of the road—walls, walls with windows, walls with doors, etc. In other areas, entrepreneurs have taken up brickmaking. People are also developing keen ways of making crafts using excess materials. Some common things are telephone wire baskets, tin can suitcases, halves of bottles that are wine glasses. This kind of invention can spill over into architectural form.

Traditional Zulu dwellings are cylindrical volumes with domed roofs. Domes are constructed of bent saplings tied together to form a skeletal structure. This construction technology is not practical in an urban setting in the sense that it needs to be constantly maintained and frequently rebuilt. But the domed form can be created using other more durable, sustainable materials. The frame can be constructed of steel rods and instead of thatching the structure, lightweight concrete, which can be made on site by the members of the community, can be used to cover the skeleton of the dome.

In my design, the central space of this community functions initially as a building lot for the first homes. The shed that stores tools and building materials serves as a workshop that will eventually evolve into
a community hall. This shed is constructed in 4m bays to be added onto incrementally when necessary. The workshop can be used to make prototypes or things like solar collectors, composting bins, and rainwater storage tanks. People from the community can come to the workshop to make these for their homes. Later, other activities such as sewing and literacy classes and childcare might take place in the center. At the front of the shed an open space serves as a market that could potentially serve people from the outside who come to purchase building parts or crafts.

**Design of Housing Units**

As a facilitator, the architect encourages participation and allows the design to evolve, but he/she also needs to recognize the importance of his/her own expertise and not compromise the integrity of the design. My intention for this project is that it begin with a core of houses around an open space that feeds off of the workshop. This is the most important element of the design and is not to be compromised. The centralized configuration is ideal for the formation of strong social relationships, for the topography of the site and preservation of nature, and it gives the community a strong presence.

Although this is the core of the project, I provide a possibility for developing the rest of the site to meet the first phase of the BESG project which calls for 110 units. The Zulu family structure is different from the western idea of nuclear family and is currently undergoing structural transitions with people flocking to the city for work. To provide flexibility for condition and in response to specific environmental conditions of this site, I have come up with three different unit types.

**Perceptions of Public and Private & Gender Separation**

One of the issues affecting the design of these units is the perception of public and private space in Zulu culture and other African cultures which is quite different from that of American and European culture. Instead of differentiating space for each family member to sleep, people often sleep in a shared space. One exception to this is when a boy makes his passage into manhood. At this point, boys are separated from girls (sisters, cousins, etc.) in many aspects of their lives including sleeping. In rural areas, he will build his own hut. Sometimes, even in urban, wealthy Zulu families, the son will be given separate living quarters—an annex to the family house.

Each variation of housing units in this scheme provides the opportunity for the son to move into a separate but attached living space of his own. In the event that the family does not have a son, or during the years when he is young, and in the event that, a family chooses not to continue this tradition, the additional space can be rented out to a single occupant.

**Cooking**

Another issue that relates to the design of these units is that in a traditional Zulu setting, cooking takes place in the center of the hut on the ground as well as outside of the hut in the area immediately surrounding it. As Durban’s climate is tropical, activities occur both inside and outside during most of the year. Cooking in the squatter areas is usually done on a small table (about 1m x 1.2 m) using gas for heat. I have included places for these in the design of the cooking areas. In this new community, there will be gas available to each unit for use in the home for cooking. This will serve a secondary function of heating the house in the winter. Most homes in South Africa, even those of the wealthy, are not heated despite cold temperatures at night in the winter months. Although we may think that using gas from the stove is hazardous, it is a common practice in South Africa. Cooking areas in the units are located so that they can spill out to the open air when the climate demands.

**Absolution**

In rural areas, formal toilets are rare. Because the area is sparsely populated, it is easy for a person to go to a more secluded area to go to the bathroom. Also, the perception of going to the bathroom in public as an embarrassment is not as great. It is not as private as is regarded in Western culture. However, in a city...
where there is a dense population, lack of proper sanitary facilities is a health hazard. In the squatter areas, disease and infection are rampant.

There have been efforts to upgrade the squatter settlements in recent years. These "upgrades" involve running sewage lines underground connecting outhouses that dot the landscape. These are a positive step toward healthier communities.

This new community has the possibility of having better plumbing conditions than in the squatter areas. Instead of emulating the Western ideal of one toilet per household, the community will begin with communal toilet facilities. In time, it will be possible for families to acquire their own toilets, if they choose to do so. Personal toilets will utilize rainwater collection on the roofs of individual units. The larger, communal facilities will also utilize rainwater collection.

In the Valley of 1000 Hills, a traditional, rural Zulu settlement, washing clothes takes place in the river that flows through the valley. Women wash the clothes of the community by hand, scrubbing the garments and hitting them against rocks to wring out excess water. In squatter areas, clothes are also washed by hand with collected rainwater or water from the local tap. Water is very scarce and sometimes non-existent in the squatter areas.

Although there will be water available from the city supply, it will cost. In order to conserve water, and to cut expenses, laundry will utilize rainwater collection. The water that is collected on the roofs of the communal bathing/toilet facilities will serve the purpose of doing laundry. In the immediate vicinity of each of these facilities, there will be an area reserved for washing and hanging clothes to dry. This activity can also be done privately at each residence, but washing is also a social activity. Locating an area near the communal bathrooms facilitates social interaction.

Idealism v. Reality
Working on this project, removed from the setting in which it will actually be built has brought many challenges but also has distinct advantages. South African designers struggle to provide quality housing on impossibly scant budgets. They must constantly answer to a plethora of different interest groups and funding agencies, all with their own agendas and sets of restrictions. Oft times projects which could be completed in one year take five or six years because of unforeseen obstacles and conflicts. As an outsider, one has the advantage of a fresh and more hopeful perspective, a "can do" attitude that remains unsquelched. Although it may border on naivete, it can be a catalyst for new approaches, explorations, and vision.

Future Applications
This project is currently in the design phase at BESG and my designs are being consulted as sources of inspiration. There is a good possibility that I will return to Durban upon completion of my Master's degree in May, 1997 to continue my involvement with this and other development projects in the country. If I am afforded this opportunity, it will expand my understanding of the challenges involved in such undertakings. In any case, my experiences are directly applicable in the setting of the US where poverty is as much a result of capitalist exploitation of human labor and resources as is the case in foreign countries.
that distinction. Drawing a line. I am so-and-so because I draw the line here. Draw the line literally, not I am so-and-so because...But why
A [Sub]urban Foyer
Lisa Belian

The examination, analysis, mapping, and construction of a specific condition through the edge of an urban fragment.

The description of a "moment of movement" through a threshold in a series of twelve 5x7 inch black and white photographs from Windsor, Ontario along the edge of the Detroit River overlooking Detroit.

The construction of interpretive drawings which act as vehicles of translation for this fringe condition: a 36x12 inch photo-collage introducing the edge between water and building, the edge between building and sky, and the edge between urban and suburban conditions.

The transformation of the two-dimensional maps of the site into a three-dimensional construction becomes a 45x15x11 inch object solidifying the spatial, material, and emotive qualities of the space-time dimension of this collapsed condition. It becomes an abstracted fragment which identifies the specific edges mentioned, and the spring acts to capture the density and movement of the city-center edge.

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a border crossing
a network of planes reflecting each other subtly divided defining intervals between solid void transparency opacity presence absence past future

a culmination of a structural movement that forms a link between two countries vibrating thrusting apart influencing each other

an order whose vibrant instability spreads across adjacent areas and sets the picture plane in continuous motion

the crossing extends indefinitely beyond each successive boundary that the eye encounters the eye never captures it as a whole an image that constantly disintegrates into self-contained parts and into a free interplay of forms

the dimension of time the genesis of form the successive strata the subtle and pleasurable sensation of a tension-filled calm

varied lines stains striations articulation contrary motion overlapping edges

interchange between car and train interchange between car and ferry interchange between car and pedestrian areas

learn to use that to your benefit. When you talk about the line...from now on in this discussion, when we talk about the line, we should b
Phase II: A site is identified along this edge and an intangible fragment of the fringe of the contemporary city is transformed into an architectural proposal for a specific condition.

A Border Crossing...

A link from Detroit to Belle Isle to Windsor. These points serve as vital links through which access to the city begins. The line between urban and suburban, the line between countries, becomes blurred.

The proposal of a new public space at these threshold conditions along the edge.

Here, the body maintains a brief moment of rest.
we really make...
Some five hundred years separate Leon Battista Alberti’s *De re aedificatoria*, otherwise known as *On the Art of Building in Ten Books*, and Gaston Bachelard’s *The Poetics of Space*. Alberti’s work was first issued in 1453, and greatly influenced the design of much of the architecture of the early Renaissance in Italy. For example, his prescription that the ideal temple should be round in plan was the stimulus for numerous centralized plans, among them Bramante’s plan for St. Peter’s in Rome, later modified by Michelangelo. Or, there is Bramante’s Tempietto, dating from 1502, which is perhaps the finest realization of Albertian roundness.

On the other hand, Bachelard’s work appeared in 1958. He also had a deep commitment to roundness, although in quite a different way than the geometrical roundness Alberti had in mind. As the title of his book suggests, Bachelard was interested in architecture from a poetic perspective. Something written in prose attempts to convey a previously thought-out process. But poetry attempts to capture the immediate feel of things. So, when applied to a built environment, this poetic view attempts to recognize the existential oneness which you or I would experience when we find ourselves in the midst of that environment—previous to any analytical thought. Now, this may sound slightly unclear. But then, poetry is like that. It has a quality of touching upon meaning which is vague at the edges. But if a poem is good, upon reading it, it connects with something real within our soul. Bachelard tried to touch this essence in spatial terms. Let me cite directly from Bachelard on roundness:

> 'Every being seems in itself round... Van Gogh wrote: 'Life is probably round.' And Joe Bousquet, with no knowledge of Van Gogh’s sentence, wrote, 'He had been told that life was beautiful. No! Life is round.' Lastly, I should like to know where La Fontaine said: 'A walnut makes me quite round...'

One thing we could be quite clear of: Bachelard is not thinking to simple geometrical circles here. He cites these...
unrelated (yet startlingly related!) statements so as to get at a quality of life in this world, perhaps an essence of it. It is frankly hard to identify with. But lest we reject it out of hand, we ought to consider whether Bachelard is on to something which we, in our hectic and linearly scheduled lives (nine o'clock this, ten o'clock that, and so on, day after day), have lost touch with. At the very least, Bachelard reminds us that, when we stop to allow all the depth and breadth of what it means to be alive to overwhelm us, we sense a certain fullness about it, a fullness which, however we describe it, would not be described by a naked geometric line.

In this paper, I wish to make the point that the geometrical roundness Alberti spoke of and the poetic roundness of Bachelard are not two types of “roundnesses”, but that they are pointing to a single kind of architectural experience. It is easy to think of the two theorists as speaking of completely different things; of the fact that the word “round” each theorist uses is just an accident of language which has nothing to do with the very different thrusts of the points they were trying to make. Now, added to this, if we think of the movement of history through time as a linear phenomenon, then it reinforces the idea that Alberti would be on one end of a 500 year line and Bachelard on the other end. And what differences 500 years could bring!

But even as there is an inevitability in thinking of history as linear, my argument is that, on the level of perceptual experience, Alberti’s and Bachelard’s writings are really very closely related on this matter of roundness. Bachelard was speaking of an enveloping sense of life in this world; he was trying to touch the full-orbed-ness of existence on the level of our senses as well as on the level of our metaphysical presence in the world. Consider an example. Imagine standing in an open field, perhaps, say, an apple orchard. We see the blue sky above and the green grass beneath. We look around and see the horizon interrupted by the rows of gnarled apple trees, leaves in full foliage, dotted with red apples. The smells of the orchard fill our nostrils. Our ears pick up the birds chirping in the trees or, perhaps in the distance, the rumbling of traffic on the interstate and the faint whine of a jet far away in the sky. Our experience is a continuity; there is no break in the seamless fabric of what we are taking in. There is no “gap of blackness,” for example, either in the scope of our physical vision or in the scope of our inner sense of present-ness in the orchard. There simply are no discontinuities interrupting our full-orbed experience of just being there.

The philosopher Martin Heidegger had a term for just this reality of being there. The term is *Dasein*, which in German means, simply, "being there". And being there, at least for Bachelard, is round. And after even a brief consideration, this does not seem as strange to us.

And our mind game played in an apple orchard applies everywhere else as well. We could picture ourselves standing in the courtyard of the Louvre in Paris. Or we are now standing in the great courtyard of the Forbidden City in Beijing. Or something much more humble: you are now with me in my own backyard, cooking hamburgers on the Webber grill. Again, the sky is blue. And we are barefoot on the green grass. The pleasant aromas of food fill the air. We converse about nothings, dressed in casual picnic

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garb. And so forth. Or we are now in my study, with its walls of books, the view out the window to the flowers outside, the messy vitality of my desk, with papers almost burying the word processor. All of these make up seamless continuities of perception, in each case all surround us, with no gaps.

Now consider Alberti. His roundness is clearly a prescription for a geometrical roundness. It is a roundness we could measure with instruments. But is this, really, all that Alberti was after? Was Alberti’s intent merely to promote some geometric rules of thumb to design buildings by? Of course not. The very word “renaissance” means “re-birth.” And this should speak to the tremendous shifts in world view going on in the Western world in Alberti’s day. The spiritual-mystical ideas of the medieval world, which tended to view present material existence as merely a kind of “foyer” preceding entrance into the permanence of the next world, was beginning to dissolve. In the medieval period, nature was understood as a kind of scrim of signs which, if deciphered correctly, led to genuine spiritual truth. Typical is this passage from those days:

*The rose...is the choir of martyrs, or yet again the choir of virgins. When red it is the blood of those who died for the faith, when white it is spotless purity. It opens among thorns as the martyr grows up in the midst of heretics and persecutors, or as the pure virgin blooms radiant in the midst of iniquity.*

And when the medieval scholastics tried to link material forms to geometry, it was not with regard for the pure universal forms of circle, square and triangle. It was, rather, again an obsession with the secret meanings behind visible things. And so the geometric lines which they generated were complex, often contorted, affairs. The drawings of Villard de Honnecourt from the thirteenth century exemplify this tendency.

The theorists of the Renaissance eschewed this kind of speculation. One project which illustrates the complete shift in thinking is Brunelleschi’s Orphan’s Home in Florence, dating from 1419. Here, rather than the verticality of the medieval cathedrals, a result of that period’s preoccupation with reaching unto heaven, we have the horizontality of a colonnaded building, a result of the Renaissance desire to engage with this present world as a place to dwell. Rather than the mystical interior space of the cathedral, here we have the external public space of the piazza. Rather than the contorted geometries, Brunelleschi’s project is derived from the pure forms of circle and square.

And Alberti elevated pure geometry itself to the level of an essential element for Renaissance expression. *But it was pure...the opinion I form is grounded by something tangible and is not about this great line. / But this discussion has begun. / But not all...*
geometry in the service of the desire to capture a world. And in this sense Alberti’s architectural theory was not motivated differently than the architectural theories of the medieval period—or, we might speculate, of any other period. Geometrical roundness for Alberti was a means to an end, not an end in itself. His reasoning that a temple should be round because roundness happens most often in nature is just because the world Alberti wanted to “capture” in architectural terms was a world continuous with this world, not some other one to come. Hence there was no need for verticality, or for mysterious internal spaces. Indeed, the Renaissance was exemplary in achieving a balance between interior and exterior space. In the medieval period, internal space was emphasized over any sense of an ordered external spatial sense.

On the other hand, in the Baroque, both external spaces (consider Pope Sixtus V’s axial avenues for Rome) and internal spaces (consider the theatricality of Guarini’s dome at St. Sindone in Turin) were emphasized because, by the Baroque era, Western civilization had learned to harness architecture to be a tool of persuasion and theatrical effect. In short, the world captured by Baroque architecture was an exaggerated world. Of course, in another paper (indeed, later on in this one), we might argue that such a world is also a “round” world. But here, my only aim is to underline the point that Alberti’s theoretical emphasis on the pure circle was not due to a love affair with abstraction, but was rather due to a love affair with this world in all of its natural beauty. This is not the case, once again, with a structure like the dome at St. Sindone, where to gaze up at the dome is to be ushered into the wonder and the infinity of heaven. The forces generated by the material forms clearly have the aim of transporting the viewer out of this world, as if in some outside-of-the-body experience, rather than reminding her of her continuity with the nature of this world. And yet, the chosen geometric device to launch all of this Baroque theatrics is the circle, which is to say, the round circle.

But to return to Alberti. For Alberti, the temple, which for Alberti was the most important architectural building type, geometric roundness was prescribed so as to harmonize with the roundness of one’s existence in the natural world. And so Alberti’s desire and Bachelard’s thinking are brought together and demonstrated to be not as different as we might assume before reflection.

And this similarity is just not some analytical sleight of hand. Alberti’s rule of centralization touches upon a universal reality of architectural experience. In fact, hundreds of years before Alberti, the centralized structures of the Eastern
The reference to nature as justification for architectural action is not only found in Book V, but is often deployed in Alberti's treatise. For example, it is his rationale for the ornamentation of public buildings, see: *On the Art of Building in Ten Books.*

Church foretold of the universality which “roundness” in concrete forms could capture. When we are in a centralized space, particularly those with a dome, whether it be the Hagia Sophia, Wren's St. Paul's, or the Capitol of the United States, we sense fully the somehow-magical-wholeness which such a form engenders in us. We somehow are humbled and ennobled at the same time. We are brought into the presence, at least the contemplation, of larger things than our own small mortal lives. Bachelard would say that, in those times, perhaps we experience roundness.

This identification of Alberti’s desire with Bachelard’s thinking raises some important related issues. I have already hinted at the first one, namely, that a linear view of history necessarily separates the theories of these two thinkers far apart, but that an analysis from perceptual experience may well meld them together. This fact presents a challenge to us in terms of how we think about architectural history. It would be easy to think linearly, which is to say, that one development happened after another, so that the architectural experience of each historic period would be characterized by an emphasis upon the traits of the architectural theories of that time. Thus, for example, the architectural experience of the early Renaissance would be indexed to an awareness of pure geometries, perfect forms, and so forth.
I think this way of thinking is a great mistake. Simply put, it confuses theory, which is always a second-order affair (in the sense that theory is by definition not an experience, but rather thought about an experience), with immediate experience itself. The gestalt psychologists have taught us that it is very difficult, even nigh unto impossible, for the human eye to really discern perfect squares, circles and the like, in the context of a real physical environment. That is to say, upon entrance into an Albertian space, it would only be afterwards, upon reflection, that the perfect geometries around which the space was designed would be known to us. Our immediate perception of the space would not immediately involve conscious recognition of the perfect forms in a mathematical sense. Rather, our immediate perception of an environment is always a perception of a world. And our reception of that world is of an integrated complex unity. We must not confuse theoretical thinking with immediate architectural experience.

So, put another way, we could say that what Alberti was after was the effect of a world which our senses would take in upon engaging with, say, his St. Andrea in Mantua, or his Santa Maria Novella in Florence. And when Palladio designed the Villa Rotunda in Vicenza, a building which, even though not a temple, was very much influenced by Alberti’s prescriptions for roundness, what he was after was the experiential effect of an architectural environment which amounted to a world. Yes, for both Alberti and Palladio, the perfect geometries were their vehicles towards creating that experience.

But we must never forget that the experience was the thing, not just abstract squares and circles. And in terms of the experiential reality of architecture, Alberti and Palladio were not 400 years removed from the observations of Bachelard. In terms of experience, linear history is not the issue. Rather, at issue is, and always will be when it comes to the design of good architectural environments, the symphonic reality of the experience of a complex unity, a unity which is a world. And the full-orbed experience of that world is, somehow, round.

This leads us to the second observation, namely, that the above thoughts about the symphonic reality of architectural experience is of course not limited just to Renaissance buildings, or just to the various physical environments Bachelard wrote about. The obvious conclusion is that the experience of the architecture of any period, if truly experienced, is a symphonic one. In short, all experience of a world is round.

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And this leads us to conclude with that big word *phenomenology*. Gaston Bachelard was a phenomenologist philosopher. This simply means that his field of thought had to do with the nature of immediate experience. The phenomenologists criticize thinkers who tend to view the world "scientifically," by which they mean a way of receiving the world which assumes that something is "real" only when it could be verified by means of equations and formulas. They say that the world as we experience it is much bigger than science could ever describe fully. We dream dreams. We have feelings. We do things on the spur of the moment. We "like" certain things and do not "like" certain other things. The reasons for why we are this way cannot be fully captured scientifically.

And an *architectural* phenomenologist would say that we perhaps fall too easily into a "scientific" way of thinking about architectural history. This would be the linear way of thinking about architectural history: Alberti emphasized circles and squares; Michelangelo and Romano distorted them; they get even more distorted in the Baroque, when they began to use the axis, and all sorts of theatrical effects; then we go on to the Rococo, then to Neo-Classicism, then to the Picturesque, and on and on. This linear way of thinking, the phenomenologist would say, is not only a bore, but also misses the point that, at every stop along the way, the theorists and architects were trying to create a WORLD! And by thinking only linearly, we totally miss that world and the *symphonic* experiences they were trying to capture.

And so every period of architectural history may be viewed not so much as merely a link in a chain, but rather as a complete symphony in itself. This after all is what actual experience is like. Real history has no regard for which period we are in. It is not like a stage play where, after one "scene," the stage is cleared for the next.

Go to any city, say, Paris. There the architectural edifices from every period are mixed together in the fabric of the real city. Tschumi is there with Labrouste, the Eiffel Tower with Notre Dame. You do not experience "periods" when you take in Paris. You experience the roundness of a world.
talk about the line, we should ground it in how we understand the line. / To be abstract about it, it seems to me that so much of the
The End of the Line: Pocket Ore Docks of the Great Lakes 1857-1944
Patrick Cooleybeck

Pocket ore docks are monumental structures used to transfer iron ore from railway cars that travel from nearby mines to ships that carry the ore South to steelmaking centers or transfer points on the Lower Great Lakes. The docks were initially constructed from wood and later from steel or reinforced concrete. The twelve docks that remain today in various states of use, disuse, and disrepair are located in Marquette, Michigan; Ashland and Superior, Wisconsin; Duluth and Two Harbors, Minnesota; and Thunder Bay, Ontario. The docks are approximately 80 feet in height, 60 feet in width, and range between 900 and 2300 feet in length. Movable steel chutes which angle out over the water at twelve-foot intervals (corresponding to the distance between hatch openings on ships) lend a sense of scale to these massive structures.

The operation of the docks is a simple, uncomplicated matter. Railway cars carrying iron ore are moved out over tracks that extend the length of the dock. The ore is emptied through the bottom of the cars, filling a series of trapezoidal holding bins, or pockets. Ore can be stored in these pockets until a ship is ready to receive it for transport. At this point, the numbered chutes swing open and drop the ore directly into the holds of ships anchored alongside the dock.

Iron was first discovered in 1844 near the Lake Superior on the Marquette Range of Michigan’s Upper Peninsula. Active mining soon began and the first shipment of iron ore was made from Marquette in 1852. At first the ore was loaded by hand into barrels that were manually lowered into the holds of the ships. By 1855 the process incorporated a wooden trestle, which allowed ore carried by wheelbarrows to be dumped directly into the ships.

As shipping volume increased at a rapid pace a faster means of loading soon became necessary. In 1857 an unnamed captain suggested a timber structure with bins into which iron ore could be loaded and stored until the ships arrived in port. Since the bins were located some distance above the water, the dock was equipped with chutes that could be lowered for loading ore into ships anchored below. This was the first pocket ore dock on the Great Lakes.

The timber pocket docks had relatively short life spans due to the constant strain of moving trains, the impact of ore falling into the dock, and the collision of ships against the foundation. The danger of fire due to steam-powered locomotives and ships was always present. Maintenance and construction costs increased as the supply of appropriate timbers was depleted. The advent of steel and reinforced concrete construction techniques presented new opportunities and led to the use of these materials for the docks. The first steel dock was built by the Duluth & Iron Range Railway at Two Harbors in 1908; the first concrete dock was built by the Great Northern Railway at Superior in 1911.
Steel and concrete offered a more permanent character to the docks, a longer life spans, and reduced maintenance costs. The concrete docks were less expensive to construct than the steel docks, but the steel docks were believed to be more elastic than the concrete structures and thus better able to withstand the stress of constant use. Both concrete and steel docks were built over the course of the next 35 years. The last pocket dock on the Great Lakes was built in 1944 from concrete in Thunder Bay.

Transportation systems moving from one point to another, are necessarily lineal. The pocket ore dock serves as the transfer point between two forms of transportation—the train and the ship and thus appropriately assumes a lineal form.

It is obvious that in the case of any 2000 foot long structure such as the docks the horizontal dimension will dominate. The verticality of the columns and piers acts as a counterpoint to the overall horizontal form of the docks, and the regular intervals between columns lend a sense of scale to the dock by breaking the length of the dock into recognizable distances.

The steel chutes, projecting out over the water at a slight angle, contribute a dynamic, visually active, unbalanced quality to the idle dock. Even at rest, the chutes appear to be active, falling towards the locations where ships anchor alongside.
The dock's perceived solidity changes as one moves around it. While standing near the end of the dock, the column lines define a solid plane. This perception of solidity disintegrates as the viewer's field of vision is aligned perpendicular to the dock. The perceived plane continues to dematerialize until the viewer faces perpendicular to the dock where the voids of the columns are in full view. The fragility of the dock is revealed as an element of transparency and presents the space beyond as a background to the massive structural foreground of the dock.

After the construction of the Thunder Bay dock in 1944, pocket docks gave way to concrete structures known as shiploaders, three of which have been built since 1956. Shiploaders resemble grain elevators both in their cylindrical form and in their reliance on automated transport (in this case a series of conveyors) rather than gravity for the movement of material from the storage bins into the ships.

Yet the pocket docks remain, although generally not in their original condition. Only four of the twelve standing pocket docks remain in active use. Two of these docks, at Duluth and Two Harbors, have been partially converted into shiploader-type facilities. One of the steel docks in Two Harbors was substantially altered in 1978. Ten foot bin extensions were added to the top of the dock to increase pocket capacity, and a conveyor system was added to carry ore from nearby stockpiles to the dock. Structural members were added at the lower part of the dock to carry the additional load of the larger pockets. Chutes were removed and replaced by movable conveyors which load the ore into the ships.

Since the removal of its last timber dock in 1970 the Chicago & Northwestern Railway in Escanaba has rejected the notion of structure altogether and instead has relied on a moving piece of machinery to load ships.

The steel chutes and approaches of inactive docks in Thunder Bay, Two Harbors, Duluth and Superior have been removed in preparation for the removal of the remaining structure. However, in the case of the reinforced concrete docks the cost of removal is prohibitive and the docks in their idle condition could stand for thousands of years as monuments to the mining and shipping industries.

Timber Dock, Lake Superior & Ishpeming Dock No. 1, Marquette, Michigan, 1895.

You are saying it splinters out; it branches off or are you saying it... / If it's moving away from itself there's gotta be some...
The documentation of industrial forms has often stimulated architectural innovation. Walter Gropius illustrated his 1913 article “Die Entwicklung Moderne Industriebaukunst” with nine photographs of grain elevators, among other images of American industrial architecture. Reyner Banham wrote that within the minds of European architects "images were certainly fired: within less than a year of publication, grain elevators had become touchstones of modernity, talismanic forms for all those who hoped to overthrow the mouldering architecture of the academies." After Gropius, Erich Mendelsohn (in Amerika: Bilderbuch Eines Architekten) and Le Corbusier (in Vers Une Architecture) appropriated images of grain elevators. Banham writes that grain elevators were "promoted to the level of romantic symbols of a mythical industrial promised land to the West."

As these generally unknown structures of the pocket ore docks are presented to the architectural profession and to the public in general, perhaps the ore dock can be invested with the significance of a "romantic symbol" of the Great Lakes.

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1 Reyner Banham, "Catacombs of the Modern Movement," Archetype 1, winter 1980, pp. 43 - 47
2 ibid.
Duluth South Shore & Atlantic Dock No.6, Marquette, Michigan. Pocket door and chute detail.

... It's heading to an idea. / It's connecting to something it wasn't connected to before. I guess that's the branch that becomes
A Dialogue with Ernst Giselbrecht: The Detail
Bryan Brown + Richard Johns

E: I chose this photograph because it is very important for me, a basic thing for me—the trusses. It is important because it refers to the component and the whole. I think all of the components have to deal with the whole. I say with one detail what happens with the building and I can say with the ground floor what happens with the detail. For me this is the topic in architecture. And I think each detail has to deal with the whole development of the building. Not taking one detail from here, it's good, so taking another one and collecting them. This is often done in Germany. One firm makes good details for sun protection. I take it. Then another firm makes good details for windows and doors. I go to the firm and make my design for this. And then I have a building that is a collection of really good things, but it's terrible.

B: Is there a way to describe how you move back and forth between your development of the detail and your development of the form of it in the site?

E: I cannot do all of the drawings by myself. So we work for the details and that is my task; to think about the whole so that all of the components in the whole are the melting point. Sometimes it is very hard for me because we work for maybe a half year on one design and it is not good. We have to push it away. For me, it is very hard because it costs a lot. And also for the designer on my staff because we worked and we worked very powerfully for a half year. It's a crisis. But I think this is my task in the office to have the head clear to see what happens, what we will do with this. And this sun protection system is one part I can show you, but it is the same with the doors and the windows, and with the material of the door.
R: Many architects work the other way where the form is the primary consideration and the detail...

E: And I hate this work. And so in my office it is another system. One of the staff works with me on one project. They have to do all from the first design. Most of it is a competition. When we win it, he is the project leader for the project and he has to do all of the drawings. The specifications. The control of the site. After two or three years they will be good. So good, they can make a project alone. And this is very important because if you go to a big firm, you make, maybe a half year, windows, the other half year doors, and the bathrooms, and so on. I think this is not good. Maybe it is good for another, and for me, but it is not good for the education of the architect.

B: I don't see that in many American architecture firms. They tend to be more interested in money and being famous as opposed to being a teacher and working though the craft of architecture.

E: For me it is very important to sit at the drawing desk with my staff. I like the atmosphere in the office to be like your studio here. I see one thousand things when I go through and maybe five hundred are good the other I think I have to see more about. So it is a training for me. I think to be an architect in our society is one of the few ways you can work as an artist and as an architect. You have to think about the beginning and the end of the work. This is also why I became an architect, because in my first education, I trained as a mechanical engineer. When I worked for a big firm for one year in Germany, in the research department. It was quite a good job. But then I stopped because if you work in such a big firm, you cannot question your task. As an architect, you must question your task. I think to make design is not a one dimensional solution, it is a unique solution. For me this is the founding to make architecture.

B: Is that why you teach?

E: Yes, exactly.
R: One thing that we had talked about before when I had visited your office was the use of the computer. I think that's interesting because of the way that you looked at the detail and how the level of precision increased when you use a computer. What are your thoughts about what drove you to start using the computer?

E: We started using the computer (I think it is four years ago) for drawing, not for design; for drawing, it is really helpful for us. You can have a good detail in the computer. And it is very helpful to examine the detail using the computer and to see it quickly in three dimensions. Also, it is very good to fit it with the other parts. Let's talk about the components and the whole. You can see the whole and you so much want the part, you think about what part, but it is very important to see the whole. When we started we had one computer. Now we have six. We did a lot of work for competitions by computers in the last two years. Normally, we are faster drawing by hand. When you win the competition, the next day you start scaling, 100, 200... Sometimes we do it and go back to draw by hand for training. Next week we start with a competition. It's a rather difficult competition for the old castle. It's really one of the fascinating points on the landscape. I think this we will do it by hand because it is terribly complicated with the ground plane. We couldn't do some tasks five years ago without computers.
R: Do you think drawing by hand in this project would give you a different result?

E: For me, the sketch is very important in the first drawings. The first drawings we do always by hand. Often I think about the project when I’m in the airplane or the train and I see the drawing. When I start on paper, I do the first drawings by hand and then I get into a discussion with one of my staff. And then we think about it in the computer. For me it is very interesting to see the different aspects of my work.

B: You said it helps with your production of the architecture. Does it help the quality of the detail?

E: No, no. I think we have the same quality when we draw by hand. But I think it is easier to draw because when I make a steel frame construction I have this detail in the library.

R: Do you think, in a way, it's because the drawing is something that you give to the craftsman and really it's in their control? The detail is only executed as well as the person who is actually making it so that, either way, it's about giving the drawing over.

E: For me, it is very important that I have the computer because the layout of the plans are so boring. We spend about three or four months learning in my office. When we start with the computer I will go to the plans. I think we have now a better layout with computer than by hand. I think I have very good plans, drawings from computer. You cannot do it by hand.

B: You mean the accuracy?

E: No. I think you need too much time. With one drawing you need one month. You do it in five days by computer because we declare all things in one drawing. So you have another for this material and the other one and I can put out at a bigger scale all on one sheet. It is very important. If you spend energy on drawing, and you give this to the craftsman, they see the energy and it is more exact at the site. I think this is the same as a drawing by hand or with computer. Now we have a machine to make the disc. We have 640 megabytes. This is with the detail on the component and the whole we talked more than the segment that it looks like. / Given that then, I'm just thinking of a line of conscious thought and how we think about
about before. What is important for me is building this Abbundhalle (Carpenter’s Hall) and seeing how the architect and how the craftsman stick clearly to details. I think this is very important for the students there or for the younger craftsman to see what I can do by hand. The Abbundhalle is one of my first public buildings. I spent a lot of time on this project and I had a good partner. It was a young carpenter. When he came to the site, he put up the beams and made a performance. He wanted to show the older carpenters what you can do with wood in this building. It is only forty meters. I think you can transport energy over plans if you make the drawings good. During the last five years, we made a lot of buildings and a lot of the firms we worked with were proud about their work. So a lot of firms come to the office and say, “when will we do the next [project]?” We have to make specifications and see what costs a building. Sometimes, this firm is ten percent lower than the other and they make thirty percent better work. I make a piece that comes on the site. I want to see it before.

B: So they do prototypes.

E: We do for every important thing a prototype. Now the firms are very happy about it because when the prototype is designed for me and for the client, they can start with the production.
E: Because you work out all of the problems.

E: Yes, and he takes the prototype into his working place and says to the workers take that as the same quality. Most times we have really good quality on the details. I look for firms that do not do only one thing. If I have a carpenter, they should be able to speak with the builder. Often, the carpenter will make the floor, the wooden floor so it fits easier together.

B: Do you work a lot with a general contractor or individual contractors?

E: For the smaller projects, I like more the individual. But for the bigger projects, I had the general contractor.

B: Are you constantly referring back to the site in your process of work?

E: I thought a lot of time about the site, about the type of building, about my wishes for this situation. And this I do with the drawing. I want to clear it up in my head. When I start with the first drawing, I make it from the site. Then I go to the site to compare it. Then after that it is the first time I speak with someone from my staff. I discuss with him one time what I will do with this building. But this is like a play.

B: It's not so structured?

E: No. It's now in my head. When we start, then we go step by step. We go on drawing. Then we go back on the site. We speak with the client. We speak with others. What happens with the development of the city or perhaps with the landscape. But then it is step by step. We spend a lot of time designing before we go in the plan for the authorities. I think it is twenty five percent, perhaps thirty percent of the whole time. When we make the official planning, then we have to start with the detail planning. But we do a lot before the details. When we think about this building, we discuss the material. We speak about the details from the first. This is very important so that it is possible that the detail can go into the whole composition. When we start drawing details I think we have forty percent clear.

B: That's from the site. From the social and political.

E: Also from the picture we have from this building. It is also interesting, how do you say, the music of the space. If you make this ceiling and this wall, it is another voice.

universal consciousness, I don't know, but the idea of lines of thought which kinda exist throughout the universe or throughout the world.
B: I get what you are saying. Another whole system. So there are two different systems.

E: The material is also very important for me. I live in a time when we can build in stone from India. In the high school for mechanical engineering, a small piece of design was the hand basin. It is stainless steel. In the end, I took a piece of stone, ... I wanted to take an Austrian one, but it was two and a half times more expensive than the Indian. I paid five thousand shillings and the other was fourteen thousand shillings. It is this fantastic stone. It's a granite from India and you see the melting of the stone.

B: Could you explain that design studio and how you approached it? How would you teach architecture?

E: I want to see what makes every student think. They should not do what I say. They should find their own approach. For me it is important that the students claim their own point of view. In architecture, you cannot speak with black and white. You cannot think with black and white. We live in a time when everything is changing with such a speed. You cannot believe what will happen here in ten years Michigan is important.
picking up on somehow. It becomes interesting when that consciousness is a dense consciousness where other people think the same way.
[De][Re]generative Architecture: Stalking the Detroit Ordinary
Patrick Kanary

The 'Detroit as a poster child of failed American cities' attitude has led to a paradoxical condition from which to engage in architectural inquiry. It is paradoxical because the negative attitude (which far outweighs the serious problems Detroit does have) reserved for Detroit has lessened the perceived importance of serious architectural speculation ('it's not an architectural problem', 'there's nothing to build on, the place is too far gone') at the very same time that it has ripened the material possibilities within the city. In other words, Detroit, which sits unworthy of attention, is full of potential. Externally, the luster has worn away. But experienced from the inside, the city is spatially "charged*. In the absence of a nourishing disciplinary presence, the city has cultivated its own material conditions. Contingency has set in where attempts to control typically prevail. Combine the diminishing attention afforded to Detroit by the design establishment with lackluster City Services and you can find a ready made material resonance.

This architectural inquiry shuns the traditional, generalist problem resolving posture for a more local, energetic, potential embedded in the ordinary, everyday Detroit of the present—a Detroit that is surveyed and experienced in its physical sobriety.

This modest and local endeavor presents a nourishing architectural assemblage and honestly questions how one is to build a sustaining architecture in, and for, a city like Detroit.

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*Jason Young, Studio Critic
The architectural inquiry of Detroit began with a one-to-one examination of the city and its inherent conditions. It is critical to perceive that a microanalysis of the site [Detroit] is an absolute urgency to advocate the foundation of the inquiry and to surpass the mechanized propagation of negativity. Guy Debord’s *The Theory of the Dérive* provides a method of personnel, factual discovery into and out of the site [Detroit] that negates Detroit’s perceived image. The theory elaborates both on the condition of the city and a competent process to engage and measure ordinary relief within the urban fabric.

Huebler’s *Variable Works (In Progress)*/Dusseldorf, Germany-Turin, Italy (1970–71), which consisted in hitchhiking from Dusseldorf to Turin, evokes the Surrealists’ aleatory trip of 1924. Huebler’s ultimate decision, after failing to reach Italy, to realize instead his Alternative Piece, Paris, 1970 (1970) recalls Debord’s essay ‘Theory of the Dérive,’ which promoted purposeless displacements. Huebler wandered in the Paris metro, flipping a coin to determine when and where to get out. He took photographs of the site as he saw it, randomly, as he ascended to the street.

Huebler’s take on urban situations thus evokes the Dada technique of randomness, while also echoing Debord’s view that the element of chance is less determinant than one might think: from the dérive point of view, cities have a psychogeographical relief, with constant currents, fixed points, and vortices which strongly discourage entry into or exit from certain zones.

Within the ideals of the dérive, I wandered the site [Detroit] to unlock its potential for prescribing to the foundation of the investigation. I derived the city outfitted with a camera and black and white film to record my displacements and random acts of investigation. I took photographs of the site [Detroit] as I saw it in no particular order, only a deep psychological interest in the view of the frame. When I had exhausted 36 exposures during my dérive, I concluded that my dérive was over and I had captured 36 psychogeographical reliefs that would begin to unlock the Detroit potential.

It is only in the most ordinary that one can gather a sense of that which touches deeper than the ordinary: the Extraordinary.

The psychogeographical reliefs documented from the dérive into the site [Detroit] led to the unmasking of the Detroit ordinary and provided an inroad into understanding the urban condition of the site [Detroit].

My dérive led to a unique possessive condition contained within the urban fabric of the site [Detroit].

I call this paradoxical condition: [de][re]generative architecture.
It is one of the psychogeographical reliefs that was uncovered during my dérive of the site [Detroit]. It is a unique material condition retaining natural and unnatural atmospheric conditions that has [de]generated a particular material or physical element of a built structure to the point that it could [can] be interpreted as a [re]generative condition. At what point does a particular material or built condition [de]generate until it possesses and displays a new inherent meaning and perception?

Detroit's urban fabric has weathered through neglect and mismanagement to the point that its original material resonance has [de][re]generated into the fantastic. It is this fantastic ordinary out of which to appropriately create an architecture of, and for, the site [Detroit].

A one-to-one material investigation of the site's [Detroit] unique paradoxical condition issued to generate a better understanding of the site's [Detroit] specific material resonance. Explicit materials were selected that would atmospherically change their perceptive and physical nature when fabricated together or by introducing a catalyst during the construction of the assemblage.
Objectives of the study are:
To make inroads into understanding the urban condition of the site [Detroit] through a non-programmatic, full-scale investigation of architecture's material bias;

To initiate a physical thinking on/into the site [Detroit] as a means to speculate on the place of architecture within the city's present condition;

To construct a technology that conceptually aligns itself with, and is critical of, the material qualities of the site [Detroit].

How to build.
A triangular locale was selected within the site [Detroit] to initiate an appropriate programmatic insertion that upheld the foundation of the architectural inquiry. Running parallel to the longest leg of the locale is a wall that contains the back entrances to various buildings that front the next street to the east of the locale. It is along this wall that the building will engage, exhaust and proliferate [de]generative architecture. The wall and its constituent elements will provide a continuous material pallate to procure a [de]generative devise. The devise will not physically touch the wall, for this would disrupt the natural and unnatural atmospheric conditions that have, and will, alter the wall. Instead, the building will leave an alley way that will continue to service the existing buildings and the programmatic insertion.

Constituent Elements
Meeting Hall
Smoking Room
7 Small Meeting Rooms
Kitchen Services
Bar
Dining Hall
Television Room
Restrooms
Gaming Room
Transition Space, Coat Closet, Reception, Point Of Exclusion

their way of thinking as a group, living around that chunk of the wall is different than the chunk down 500 miles. / But then it's not either
Programmatic Insertion:  
Worker's Lodge & Wild Card (Weight Loss Clinic)

The worker's lodge is a fraternal, exclusive, and contained facility for the social activities of the Union. It is a place for ritualistic endeavor as well as a place for special, one-time events. Many members of the lodge stop by daily after their shift to relax and enjoy the company of their peers. On the other hand, some attend only the annual events scheduled for the observance of Labor Day. At any rate, the public is infrequently invited (if ever) to experience the interior condition of the lodge.

The (de)[re] generative conditions of the locale wall will engage the programmatic insertion via specific and intentional sightlines directed at particular and peculiar fractional elements of the wall. It is through these sightlines that the fantastic ordinary [de][re] generative condition of Detroit will engage and impregnate the interior of the programmatic insertion. The building's form is specifically assembled for the sole purpose of observing the alley wall and its acute distinctive [de][re] generative environment. The social and ritualistic endeavor of the building's users is the activation of its heart and soul.

This is a building that definitively illustrates how one can build in, and for, a city like Detroit.
Design:

The design begins with Calligraphic forms etched into the landscape. These forms are bodies of water stretched across the site shimmering in the horizon. The Monument itself is embedded within this landscape, taking on a shrine like quality, emerging from within the land. There would be a public understanding that its form arises from the text itself.

I envision this to be a structure around and in which the wreath can be laid and preserved during ceremonies and national holidays. Public gathering occurs beyond the etched landscape, the individual or individuals who will lay the wreath embark on the path in a passage through the water landscape breaking away from the congregation behind them within watching distance.

The idea is that the act laying the wreath, unlike other communal rituals, becomes a moment of dedication to personal sacrifice which is unsharable.
Shahadas Monument Design Competition. Karachi, Pakistan
Hina N. Jamelle

Studies for a Monument depicting the notion of sacrifice began with a formal study of the form of Islamic Calligraphy. From historical origins and different styles of Calligraphy used in Architecture there is a departure into ornamental features unfolding into compositions that began to express space with three dimensional implications. In Architectural precedents, even if the text is too high to read, it is the image and forms of Calligraphy that produces the "religious awe" in the presence of the sacred environment. The abstractness of Calligraphic text captures the spirit of a religious or monumental environment. This became the starting point for investigations of the three dimensional implications of the two dimensional text.

Hina N. Jamelle is an MArch Candidate at the College of Architecture and Urban Planning. This project was awarded first prize in a two phase Design Competition held in 1996.
Site Strategies:

The siting of the Landscape and Monument pick up on the dominant axis from the Maritime Museum, and, through a proposed new road, provide a link to the Monument Site. The source for the etched Calligraphy Landscaping makes use of the existing slope. The natural slope toward the site would allow it to be a source of water for the Landscape. The etched water landscape allows for multiple experiential readings: from sequential approaches by road, the actual experience on the site and, finally, by planes approaching the nearby airport, the air.
Material Choreography:

Materially, the construction of the Monument demonstrates three material systems. The treatment of the reflective surfaces: the translucent glass and the polished stone pillars, together with the reflective water surface on the horizontal plane of the landscape, choreograph materially, structurally and perceptually to express the Monument's ethereal qualities and complexity with the simplest structural vocabulary.
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| Ligne | 1 | 714 a |

The table contains data related to French language and culture, indicating concepts such as collective consciousness and collective consciousness dictating how those things and the way culture is set up relate to the collective consciousness versus the collective consciousness dictating how those things...
The Steeples of Martinville
or, Marcel Proust draws the (abstract) line
Catherine Seavitt

"You know perhaps that ever since I have been ill, I have been working on a long book..."
Marcel Proust to Louis de Robert, October 1912

By the time the last of its eight volumes was published in 1927, in fact after the death of Marcel Proust, it was indeed a long book. A book fascinating for an architect; built, in Proust's own words, with the complex structure of the Gothic cathedral as a model. Perhaps even more complex and delicate a metaphor would be an intricately woven web of thoughts—each line a thought. Proust speaks profoundly, in his mysteriously causal way, of some of the deepest and most modern concepts of our lives—time and space, names and places, dreams and memory, and that infinite challenge: the desire to know another person, and its near impossibility.

The line—whether in literature, as the author's sentence, or in architecture, as an element of the abstraction of a drawing—may be seen as simply a tool used to describe a surface. Yet what surface, what representation? Or rather, how is the line used to create an abstraction of reality? Whether in the hands of an artist, an architect, or an author, the line is a tool used to create a thought, an idea, an image. Proust's use of the line is fascinating: whether the complex line of his long sentences, infinite interwoven thoughts escaping the linearity of time; or his use of the figure of the line itself as a tool for representing a vision of the roofscape of a town or the mystery in the face of a young girl—his line is alive. While Proust gives us what seems at times to be a simple, naive reading of the world, the glorious abstraction of his lines on the page are in fact some of the richest and most fascinating in literature. Proust's spatial readings are alive—nothing is fixed, all is in movement, in flux. As Kierkegaard's knight of the faith would say, "Only movements concern me." And Proust hears this echo.

What is Proust's abstract line? It is interesting to begin with his drawn line, and to continue with his written line, while regarding the same subject: the roofscape. Between 1894 and 1914, Proust maintained a steady correspondence with a young musician friend, Reynaldo Hahn. But perhaps the most fascinating thing about these letters is the numerous drawings which illustrate them: cartoons, caricatures, portraits, and pastiches, drawn by the same Marcel who much later told his publisher Gaston Gallimard "But I don't even know how to draw." And, searching through these letters, two roofscape appear—lines drawn by Proust, accompanied by his written poems, in a letter dated September 9th., 1904. The drawings of an author, always so fascinating and mysterious, are here especially so: Proust's line is almost a single, continuous one; it is his reading of a contour, a profile, with a leap in scale between the steeple of a grand church and its adjacent miniature town.

The first sketch, the church and town of Dordrecht, presents this line with animated description at the small scale of the town: smoke drifts from the houses' tiny chimneys, wind billows in the sails of tiny boats. Like his long sentence, Proust's sketch of a townscape tells many stories, weaving an intricate landscape of thought. In this sketch, Proust the author enters into the drawing—below the datum of the horizon line of his town, he writes a poem to his friend Reynaldo.

Catherine Seavitt received a M.Arch. in February 1996 from Princeton University, where she studied with Georges Teyssot and completed a thesis entitled 'For a long time I used to go to bed early.' She received a B.Arch. from The Cooper Union, New York, 1994, and a B.S.Arch. from The University of Michigan 1991. She is currently working as an architect for the structural engineering firm of Peter Rice, in Paris, France.
But then a second sketch appears—again, a townscape—but here, whether intentional or by chance, his horizon has been turned upside-down. The church’s steeple hangs like a catenary pendulum subject to the power of un-forgiving gravity, and his small houses and sailboats drift by, tenuously clinging to that line. But in this way of drawing, Proust has created, defined, delimited a space—and it is here within the sky that he writes the poem, a text framed by his upside-down vision of a landscape.

This line—the line of Proust who draws sketches to illustrate his letters—is a simple contour, a perimeter, the limit of a city. Gilles Deleuze might describe it in these terms:

Take a system in which transversals are subordinated to diagonals, diagonals to horizontals and verticals, and horizontals and verticals to points (even when they are virtual). A system of this kind, which is rectilinear or unilinear regardless of the number of lines, expresses the formal conditions under which a space is striated and the line describes a contour. Such a line is inherently, formally, representative in itself, even if it does not represent anything.

But what happens when Proust draws a landscape with words, a literary line, a sentence, which presents the roofscape of his perception? In reality, the idea is the same—it is a representation, an abstraction of the same physical object. However, Proust’s literary world, in the simplicity of the description of an idea, is infinitely more complex. He goes beyond, between, around, within the object seen, the idea perceived—and what is presented to the reader is something spatially more complex, even venturing beyond the simple description into a world of temporality...and more.

The young author, recalling his childhood memories of Combray and his family’s countryside walks along "the two ways," the Meseglise and Guermantes paths, writes of his impressions of a distant townscape. Perhaps it is physically not much different from a view he might have drawn in a letter to Reynaldo, but his literary reading and writing of that horizon line reveals the creation of a very different space. Proust writes of his perceptions, while riding home in Doctor Percepied’s carriage, of the approaching twin steeples of Martinville, and then the steeple of Vieuxvicq which comes to join them...his horizon line with three steeples.

At a bend in the road I experienced, suddenly, that special pleasure which was unlike any other, on
catching sight of the twin steeples of Martinville, bathed in the setting sun and constantly changing their position with the movement of the carriage and the windings of the road, and then of a third steeple, that of Vieuxvicq, which, although separated from them by a hill and a valley, and rising from rather higher ground in the distance, appeared none the less to be standing by their side. In noticing and registering the shapes of their spires, their shifting lines, the sunny warmth of their surfaces, I felt that I was not penetrating to the core of my impression, that something more lay behind that mobility, that luminosity, something which they seemed at once to contain and to conceal....The steeples appeared so distant, and we seemed to be getting so little nearer them, that I was astonished when, a few minutes later, we drew up outside the church of Martinville. I did not know the reason for the pleasure I had felt on seeing them upon the horizon, and the business of trying to discover that reason seemed to me irksome; I wanted to store away in my mind those shifting, sunlit planes and, for the time being, to think of them no more. And presently their outlines and their sunlit surfaces, and though they had been a sort of rind, peeled away; something of what they had concealed from me became apparent; a thought came into my mind which had not existed for me a moment earlier, framing itself in words in my head; and the pleasure which the first sight of them had given me was so greatly enhanced that, overpowered by a sort of intoxication, I could no longer think of anything else. At that moment, as we were already someway from Martinville, turning my head I caught sight of them again, quite black this time, for the sun had meanwhile set. From time to time a turn in the road would sweep them out of sight; then they came into view for the last time, and finally I could see them no more.

Not only does Proust’s line, his description of these surfaces and displacements, occur in the world of space, with himself as a moving subject, he also brings his own movement in the relation to those of the objects. And he introduces the temporality of the setting sun, which causes the planes of the steeples to shift, presenting a constantly transforming line between light and shadow, distance and time.

But for Proust, the author, the young Marcel, there is something more, something the objects contain and conceal—a secret, a treasure. The unknown essence of a thing: an abstract quality which cannot be drawn or described by just any line, for the essence is too vital, too alive, too much in motion. Perhaps only the abstract line could describe it. But what is this abstract line? It represents nothing, yet everything—it conceals, it changes. Deleuze writes:

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Le pâtissier sur la place
ôh seul un pigeon bouge
Reflet sur le canal bleu comme de la glace
Son grand moule rouge
Un chaland s’avance et dérange
Un nénuphar et du soleil
Qui dans la glace du pâtissier fiche le camp
sur la tarte aux grossilles
Et fait peur à la mouche qui la mange
Voici la fin de la messe tout le monde sort
Alleluia sainte mère des anges
Allons faire un tour en barque sur le canal
Après une heure de sommeil.

Le pâtissier sur la place—ôh seul un pigeon bouge. Marcel Proust to Reynaldo Hayn, 9 September 1904.
On the other hand, a line that delimits nothing, that describes no contour, that no longer goes from one point to another but instead passes between points, that is always declining from the horizontal and the vertical and deviating from the diagonal, that is constantly changing direction, a mutant line of this kind that is without outside or inside, form or background, beginning or end and that is alive as a continuous variation—such a line is truly an abstract line, and describes a smooth space.¹

The world of Proust—it is not only his townscapes which he feels are bursting with mysterious unknown treasures. It is also the other: another, and here is one of the most profound and modern moments in the work of Proust. He reveals what we are all afraid to admit—the impossibility of knowing another. And he thinks of Albertine, his love, his transforming arabesque.

Nor did it mean that after this first metamorphosis Albertine was not to change again for me, many times. The qualities and defects which a person presents to us, exposed to view on the surface of his or her face, rearrange themselves in a totally different order if we approach them from a new angle—just as, in a town, buildings that appear strung in extended order along a single line, from another viewpoint are disposed in depth and their relative heights altered...Thus it can only be after one has recognized, not without some tentative stumblings, the optical errors of one's first impression that one can arrive at an exact knowledge of another person, supposing such knowledge to be ever possible. But it is not; for while our original impression of him undergoes correction, the person himself, not being an inanimate object, changes for his part too: we think that we have caught him, he shifts, and, when we imagine that at last we are seeing him clearly, it is only the odd impressions which we had already formed of him that we have succeeded in clarifying, when they no longer represent him.²

Proust speaks of this fluidity of the other, this impossibility of truly knowing or understanding this continually transforming singularity. He describes this impossibility as inherent in the nature of a person, the person who is not an inanimate object. But in fact, it is also to the inanimate object that he attributes this same mystery, as in the example of the steeple of Martinville, the famous madeleine dipped in a cup of tea, or the line separating the light and shadows on a groove of trees. Proust animates each one of these inanimate objects with his drawing of a line. His literary line of movement, a spatialized, temporalized, abstract line, while perhaps not revealing the secrets he senses are hidden within, at least reveals to us the mysterious beauty of the world. Whether in architecture, literature, or art, it is exactly this mystery which leads to the necessary act of creation as a means to express that beauty.

Proust creates his images, his literature, his view of the world, with this kind of smooth, abstract line—he breaks with any kind of convention of the line as a tool for delimiting a perimeter, as a simple descriptive device. But what does this mean for architecture? The strongest line in architecture, perhaps also the most unforgiving, the most terrifying, is that of gravity. Can one hope to bring movement to this line, this abstract, imaginary line of force pulling us to the earth? In something as static as the architectural object, the Proustian animation of line is a challenge—but one can imagine, and one can have faith...The simple line of gravity—strange, simple, complex, abstract. Yet as Heinrich von Kleist writes in his enlightening study of the marionette theater, this unforgiving line is in fact the soul...

The line that the center of gravity must describe is certainly very simple, and, so be believed, straight in the majority of cases...but, from another point of view, this line has something exceedingly mysterious, for, according to him, it is nothing other than the progression of the soul of a dancer...³

Perhaps architects should read Marcel Proust, at least some of that long, mysterious book—and then, draw the line.

¹Gilles, pp. 497-98.
hypertexting of Proust.; indexing of each use of the words ligne and lignes in the pléiade edition of Marcel Proust's *À la recherche du temps perdu*.
understand what is the relationship between the way things are built collectively. Why is the collective conscious to build a certain way. In
The Trans-Siberian Railway

A documentation of fourteen moments along the trans-siberian railway between Moscow and the Pacific Coast - spanning the 9269 kilometers and eight time zones of taiga, steppe, and desert between Europe and Asia.

Fellowship: the Suzanne Underwood Memorial Prize, Princeton University, July-August 1996.
iso at another level...your buildings will most likely will have a program and a use for those buildings. So you have to try and anticipate
you're going to function and how the spaces are going to function and how the people interact with your building. So it goes beyond your...
Tidal Measures
Craig Borum

But the 'materiality' of certain water images, the density of some phantoms, does not yield readily to measurement unless one has first probed the iridescent forms of the surface itself.

This project for the Chesapeake Bay Foundation is about the juncture of a city and its natural setting as well as the relationship of the institution and the urban structure within which it exists. It is situated in Eastport, Maryland, directly across Spa Creek from the city dock in Annapolis.

The Chesapeake Bay Foundation is a thirty year old organization dedicated to improving and protecting the Bay. Their objective is to further an awareness of the fragility and immensity of the ecological system of the Chesapeake Bay Watershed. This watershed includes 64,000 square miles extending from New York through Virginia. The Foundation operates programs related to environmental education, environmental defense and land conservation. The new headquarters has three main programmatic components: a center for environmental education, a research laboratory and the Foundation offices.

The City of Annapolis as laid out by Governor Nicholson in 1696 remains almost completely intact. Its Baroque plan is constricted by College Creek to the North and West, Spa Creek to the South and East and the Naval Academy to the North. Expansion of the city occurred across the harbor in Eastport, which grew as the center of the fishing and boat building industry serving the entire Bay area.

Michael Craig Borum is the Walter B. Sanders Fellow for the 1996/97 academic year at The University of Michigan. Craig is a registered architect and received a B.S.Arch. and an M.Arch. at the University of Virginia.
The City

... regardless of how far we advance toward the particular, regardless of how much we split this form, its true essence remains untouched; it remains an indivisible unity. Space possesses a determinate structure of its own, which recurs in all its separate configurations, and no particular thing or process can depart or, as it were, fall away from the determinacy, the fatality, of the whole. We may examine the order of the natural elements or the order of the seasons, the mixtures in bodies or the typical temperaments of men, but we always find in them one and the same original schema, one and the same 'articulation' through which the seal of the whole is imprinted on every particular.2

This project is founded upon the tradition of villeggiatura as discussed in David Coffin's The Villa in the Life of Renaissance Rome. His research supports the concept that in building outside of the city an opportunity is created to project the image of the city onto the villa and its gardens, and through the act of making the villa, reconstitute the city, according to one's own beliefs as to what the city ought to be.

This project attempts to explore that tradition with regard to the institution and its relationship to the existing urban structure and, in turn, its relation to the landscape. If the city is constituted through the relationships of the buildings that define it, Cassirer would suggest that the same structural relationships exist at a smaller scale within each of those very buildings. The particularities of program and site then add to the complexity of the urban structure by allowing those relationships to be engaged within the structure of a single building and enriching its particular relationship to the institutional structure of the polity. Architecture then has the capacity to critically reshape the structure of city it helps to define. For this to become possible it is critical that the individual building is no longer seen as an isolated entity, but assumes the possibility of being seen as a fragment of a much larger whole, which then can engage in broader relationships outside of the contingent boundaries of site and program.

The Boundary
By placing the Foundation across the harbor from the existing institutions of the city, the city's perceptual boundary shifts to include Eastport within the physical and institutional structure of the polity. In doing so, the role of the harbor itself shifts from that of a marginal territory which acts as a physical boundary to the urban structure of Annapolis, to a more central location constituting a significant event within the institutional structure of the city. As tourists and residents cross the harbor by launch to and from the Foundation, they experience the harbor as the point of entry into the city. The body of water becomes the means by which the city is located in its larger position within the world. The new territory of the city encompasses the harbor and, by extension, the Bay landscape, in order that the natural setting be seen as an integral component in the constitution of the city.
The Land

The tidal creeks wander as the mind does; its salt-sweet water eddies through green Spartina fields. Posts stud these waterways like so many remnant woods flooded and stripped. Beached work boats and clapboarded houses lean dull against pearly white banks. Deep creeks of darkness draw in to make what center it can of Onancock. Accomac is drier still, bypassed some, but old and full of stories. Places have names like Bullbeggar, Assawoman, Chincoteague, Saxis, and Oyster. Names which evoke odd and exotic sense of the region. Marsh mallows, like cotton, blanket the endless sea. Houses and walled gardens drip with rose and wisteria, framed by two kinds of myrtle, one waxy, one wrinkled. The loblollies are sacred sentinels, the oaks like iron forges marking the graveyards bent and barely legible tombstones. The stone is such a treasured thing here, unnatural as it is. The boat is such a temporal thing wooden as it is.²

that we can begin to look at that objectively and understand it. / To exploit that as a resource instead of lining them up as a wall and
An Archive for Prague
Leslie Lyn Stein

Studio Prague, an eight week long exploration, began with the following statements by Professor Jason Young:

...it is the threat of opacity that makes this prospect so intriguing.

Seeing a street sign and not having any way to resolve its mystery; the Czech language is almost impenetrable.

Spending eight weeks as an outsider to a place that has only recently been introduced to our (the West’s) cultural influences; we will witness the translation between what we do not know and what we know too well.

Struggling with the look on the faces of the workers as the Tram passes by; they seem familiar and distant at the same time.

This context of the unfamiliar, I believe could lead to the most profound realizations, the most powerful insights, possibly even the most clear understandings.

Within the most ordinary thing, the extraordinary is revealed.

We will explore the city through the making of an archive.
We will explore the archive through the making of a city.

Old Town Square, Prague: the site location for an archive.

Leslie Lyn Stein received a B.S.Arch., and is currently completing her M.Arch. and M.Eng. degrees from The University of Michigan.
Possessing no intimate knowledge of Prague, nor possessing a thorough understanding of the culture, we were faced with the challenge of making an archive. One would think that knowledge of the historical, social, political, and economic conditions is critical for an appropriate proposal for such a project. As Professor Young said, "Opacity threatens our attempt to read the culture of the city in any objective sense." The confrontation between our individual cultural backgrounds and the unfamiliar culture cultivated in Prague, the search for a moment of understanding.

very linear, very straight way. And the reasons for that are many, like cost, lazy builders, you could just keep going with that. In a way,
has contained the way we look at building housing in this country. I think we need to start to think about how those conscious, those
Three distinct rooms house the artifacts for the archive. The archive engages the existing facade with two stacked exhibitions spaces. Protected and enclosed by the wall, these rooms house the most intimate artifacts. The main exhibition space, on the third level, extends over the wall and opens the views to the collective conscious...we have to think about how we build collectively in order to break away and build individually. I believe that. I ha
city. The rooms are connected by a stair within, and along the new exterior wall. The caretaker's cabinet interlocks with the wall of the archive, and provides space for living, dining, cooking, sleeping, reading, and bathing.
Poetic Vacancies
Brian Healy

"Beauty will save the world."
Dostoevsky

Russo noted "the great interests of man: air, light, the joy of having a body, and the voluptuousness of looking." Poetics are of the mind but beauty is inherently physical. As a Tao meditation states, "This world is too ugly, too violent. There should be something delicate to care about... We should take the time to appreciate beauty in the midst of temporality."

As artists and architects, we have stopped talking about beauty. Seeing something as pleasing to the senses is no longer viewed as a critical concern. Art theory focuses on the idea and elevates the power of the intellect within the creative act. Perhaps we got caught up in a legacy of modern art which prefers the intellect to the body, ideas to experience.

Art is about making things, things which connect poetic potential to a concept of beauty. Making something requires specificity. As Henri Focillon pointed out: "Art is made up, not of artist's intentions, but of works of art. The most voluminous collection of commentaries and memoirs could never replace the meanest work of art. In order to exist at all, a work of art must be tangible, it must renounce thought, must become dimensional, must both measure and qualify space. It is in this very turning outward that its inmost principle resides..."

As architects we set up poetic vacancies for others to inhabit. It is our responsibility to make sure that potential is legible. We cannot prescribe how people should live. We create an environment, set a stage, and hope it will be worthy of life's experiences. Within this environment, "there should be something delicate to care about."

Architecture is about constructing a space which resonates with the poetic potential of a particular place. Poetry suggests that things could be seen another way, that things could be put together another way, and that a different proposition could be made. Our individual and communal environments can be addressed by focusing on how things go together. It is about fundamental connections, people, pieces of wood, blocks of stone, streets, neighborhoods, and cities. Architecture ultimately belongs to the practical and not the speculative. There is no substitute for being on the job.

The following projects derive from particular site conditions. They attempt to engage what is already there and become part of that place. Each building seeks to create its own poetic vacancy which can shape the human experience. Seeing and feeling are the primary senses with which this work seeks to connect. It is the aspiration of this work to reconnect to a concept of beauty which "makes concrete our most subtle emotions."

Brian Healy holds a B.Arch. from the Pennsylvania State University and a M.Arch from Yale University. He maintains a practice in Cambridge, MA and has received numerous design awards, including this decade's Forty Under Forty and four Progressive Architecture Awards, most recently the housing project shown here received a 1997 P/A Awards Citation. Mr. Healy has taught at several universities and is currently visiting critic at the University of Michigan.
as a way of organizing form and how buildings are constructed. I think that might be dangerous - to think that architecture could be
HOUSING PROTOTYPES
East Cambridge, Massachusetts/Atlantic City, New Jersey

Each neighborhood represents established communities of primarily two-story wooden homes. The prototypes are intended to serve as a model for the renovation of unoccupied existing structures as well as for the development of new infill housing on open lots.

A major goal for Atlantic City is to establish more stable neighborhoods through home ownership. Providing this opportunity for people of all income levels is understood as a prerequisite for creating a viable urban environment. Approximately eighty sites have been identified within the Northeast inlet of Atlantic City that provide opportunities for the construction of new infill housing. Likewise, East Cambridge provides a similar opportunity for development. The neighborhood currently has about twenty open lots and abandoned buildings. The unused buildings in the neighborhood will provide the framework for the incremental growth of new housing. The intention of this proposal is to respect the modest nature of these communities and attempt to maintain a balance between the public and private realms of urban life.

The lot width of 25 feet allows for a passageway connecting the street to a backyard and rear alleyway. This exterior walkway is a common element in both communities. In addition, building codes permit the insertion of unprotected windows and openings in a wall located five feet or more from the adjacent property line. Each unit is divided along a line which separates the communal areas from the more private parts of the house. The rooms on the communal side are designed to be open and flexible in their potential use. The front room, for instance, could be an office, an extra bedroom, a small formal living area, a den for children, etc. A study or den on the upper level overlooks the double height living area and similarly allows for flexible programming. In contrast, the more private part of the house is specific and compact.

Project Credits:
Brian Healy Architects, Cambridge, MA.
Brian Healy, principal; Craig Scott, project architect;
Design Team: Michael Ryan, Maiya Dos, Francisco Gutierrez, Lisa Iwamoto.
push toward being able to classify different stages of architecture. This woman came into our office the other day and she was this lighting
A RURAL POOL HALL
Boone, North Carolina

Boone is located in the western part of North Carolina, approximately 14 miles from Tennessee. The rural route to the site offers a context with which to connect the building to tourism and agrarian life. It pays respect to the artifacts found along a highway such as barns, motels, billboards and service garages. Like those buildings, it acts as a marker along the highway, both during the day and at night when it is illuminated by floodlights.

The building is placed in the field along the highway. The building and its signage align with both the bend in the highway and a mall service lane on the property. Access to the hall is along this service road and under a covered canopy. Parking is behind the building. The main pool hall (seven tables) is located in a shed directly facing Route 3. Adjacent to and overlooking these tables is a raised bar area. An eighth table is located in a separate room for private parties, classes and championship tournaments. This room is connected to a lounge on an upper level and an outdoor deck on the roof. This Tournament Room forms a courtyard behind the building for exterior dining with views of the distant valley. An interior dining area is located directly off of this courtyard. The kitchen is placed below the lounge adjacent to the bar and dining areas. The video arcade is placed below grade beneath the bar area. The concession and control booth for rental of tables and pool equipment is located adjacent to the main entry. An office is provided above this booth.
myself, "what are you talking about?" Do you know anything about Deconstruction? Have you read Lacan? Have you read anyone who's
Beach House
Loveladies, New Jersey

Long Beach island is a thin barrier island along the central coast of New Jersey used primarily as a summer resort. The site is on the northern portion of the island directly on the Atlantic Ocean. With the exception of an active commercial fishing fleet, there is a lot of litter year-round activity.

The site is located at a natural curve of the beach which offers distant views to the North. Summer breezes arrive from the South while winter winds are from the northwest. The main living area was raised a story above grade to take advantage of these views and breezes.

Project Credits:
Brian Healy + Michael Ryan
Brian Healy Architects, Cambridge, MA.
Brian Healy—principal; Craig Scott, Maiya Dos.

Michael Ryan Architects, Loveladies, NJ.
Michael Ryan—principal; Randee Spelkman, Andrew Wilkinson, Michele Meggitt, Michael Graeff, Chris Jeffrey.
linea: a boundary, a limit (pl. lineam)\(^1\) line: the path traced by a moving point, a thin continuous mark, a course of progress or movement, a unit of verse ending in a textual or typographic break, to place in a series or in a row. A \(\text{b o r d e r}\) or boundary\(^2\) What a thing or idea is and is not are perhaps equally important in the process of grasping the thing or idea. The idea of the finite, for reconstruction or even Deconstructivism or anything. It was a lighting fixture. I think that our culture likes to classify things because it is
The Liquid Line: becoming Ulysses
Deborah Kully

instance, is understood as that which is limited, as that which is "not infinite." The finite begins after and ends before the infinite. It is bounded by the infinite. If our understanding of the finite is wholly dependent on its being not infinite, does this perhaps mean that the concept of the infinite is contained within the concept of the finite? This would mean that the most thorough understanding of a thing, having confronted not the thing, contains within it the subversion of the thing it understands. In his exploration of the linea, James Joyce stages such a subversion. His investigation of this linea necessarily involves not the linea. At the culmination of this investigation we encounter a transformed linea, one which is not only bounded by the not linea but also contains within itself the not linea. This essay will argue that this problematized not linea is actually the line.

Linea and its Impact on the Space Around Itself
Our understanding of the line is derived from the Latin term linea which means "a boundary, a limit." In this context, a linea becomes that which defines a thing's or place's finiteness outside of which sits everything else. This linea's affect on places and things in the world is to limit them, to define them, and to divide them. This linea makes the beginnings and endings of things or places and therefore these things and places themselves comprehensible in that it marks them. In this sense, the linea is that which stops flow; it is that which limits continuity. We confront lineam everyday at stop signs which interrupt traffic flow, as demilitarization zones which act as peaceful moments amidst the flow of war, as sentence structures which interrupt the flow of thought, and as laws which mediate natural flows of action between people. These lineam interrupt the flows which occur spatially to the left and right, above and below, in front of and behind, and temporally before and after them. These lineam are not flow.

In addition to interrupting a flow, the linea can also maintain or instigate a difference between flows. Because the linea prevents one flow from moving into the space of another, it prevents a union of flow. The Berlin Wall, the linea which divided East and West Germany and interrupted the flow of a once whole nation, created difference. Western and Eastern ideology and movement were mutually excluded from each other. Walls which sit between public and private spaces, defining interiority and exteriority, instigate other interruptions of flow and consequently initiations of difference. Speeds of movement, orientations of views, types of activities, all of these things are dramatically different on each side of the public/private wall-line.

When considering these lines as initiators of difference, it is particularly interesting to think about whether or not the differences between each side of the linea would have existed without the linea to articulate them. At each of the lineam discussed above and at the Berlin Wall in particular, perhaps difference to a degree existed before the physical presence of the linea. But it was a hazy difference without definite boundaries. In fact, I would argue, eventually the difference would have been submerged by the flows (pedestrians and vehicles bringing with them politics and ideology) that moved through it. As East moved regularly through West and West moved regularly through East, distinctions between the two places would

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gradually dissipate giving way to a German flow. With the creation of a linea like the Berlin wall, however, difference is first frozen and then aggravated as the linea becomes a space of impermeability to flow. As the Berlin Wall, the linea acted like a reflector; anything moving towards it, desiring to cross it, was inevitably bounced back inside of itself. Even when a linea is removed by ideological forces stronger than in this case the two German halves on either side of it, its trace remains as a piece which is still a boundary of sorts. One still recognizes as one crosses it that one is moving between two different places. Perhaps now, as movement between the two distinct places is unrestricted, the constant flow from East to West and West to East will eventually produce one flow through.

The Line or the Implications of the Thickening of Linea

Now that we understand how a linea interacts with the world around it, we must ask about the space within it. What is a line that a linea is not? It would seem that the line, unlike the linea, is created or drawn for the space within itself as well as for its effects on the space around itself. It is important to note that the Latin term linea meaning “to mark, boundary line, limit” contains no information about such a line. Our English definition having evolved from the Latin term contains the linea sense of line and further defines line as “the path traced by a moving point, a thin continuous mark, a course of progress or movement, a unit of verse ending in a textual or typographic break, to place in a series or row.” This line which interrupts flow on either side of itself seems also to be made up of and made by flow. The line represents the flow or movement of a point. Unlike the flows on either side of the line which are neither self-contained nor self-directed, the line’s flows are directed and contained by the line itself.

I would argue that at least one end of this line is locatable in space. If the line is “a path traced by a moving point, a course of progress,” then its beginning is located at the moment before the point begins to move, at the thing before it progresses. It would follow that in at least one of its directions this line is not infinite. The lines we encounter, these things which interrupt flows, usually have an end point as well as a beginning point. My line of sight begins with my eye and ends, barring any obstructions at a vanishing point along the horizon line. The line of a street flow begins at a park and ends at a town plaza.

These examples imply something else about the line, that it is created sequentially along itself and that we move sequentially along it. A point is projected linearly from its beginning at place A to place B to place C to place D to end at place E. Our experience of it is ordered in the same fashion. If we were somehow able to move from point A to D back to C back to A forward to E back to B back to C back to A... our experience of the line would subvert its spatial containment and be infinite. Even when space ran out, even when there was almost no space to occupy, our experience of the line and the line itself would transcend its spatial finitude.

The Inflection Between The Textual Linea and The Textual Line

The definition of the line which emphasizes its spatial and formal finitude is especially applicable to the textual line. Again, the English definition of line as “a unit of verse ending in a textual of typographic break” is important here. Written prose linea such as those discussed in this English definition interrupt continuous flows of thought by segmenting these flows into digestable parts beginning with capital letters and ending with periods. Generally, a linea or sentence in itself cannot contain a whole thought. For thought itself to ever be considered as whole or as containable is perhaps an impossibility because thought can never be finite. It is impossible in any real sense to ever trace the beginning of a thought because that beginning can inevitably be traced to another beginning which can inevitably be traced to another beginning and so on. The same is true of a thought’s ending which is always simultaneously a beginning for new thought and a continuation of older thought. Perhaps this depiction of thought makes it appear linear or sequential. A better description of thought brings us back to our path which we experience not as an A-B-C-D-E movement but as an A-C-D-B-A-E-C... movement. Once we have thought our first thought which
leads to our next thought and our next next thought, we inevitably return to our first thought and our next thought which are necessarily affected by the thoughts which follow them.

Poetry and prose use the *linea* differently to break up or interrupt this thought flow. What is important to recognize in both poetry's and prose's *lineam*, though, is that the *linea* is essentially something imposed over the organic and flowing line of thought. The imposition of *lineam* over this flow has become a communicative device. However, no reader of these communication devices perceives each *linea* as a whole unto itself. Instead, the reader moves back and forth through the *lineam*, making not just A-B-C-D-E connections but A-C-D-B-A-E-C... connections, ultimately creating a completely new and individual flow through the text. This new flow has very little to do with the imposed *lineam* and pauses. It more closely resembles the author's original thought flow before it was broken into communicable parts. The reader's experience of the text becomes a reconstruction of flow, similar to the author's original construction in both its common points of reference and its fluidity; distinct from this original construction in its unique points of reference and its new and different connections between the unique and common reference points. The writer's flow translated into textual *lineam* and the reader's flow translated from textual *lineam* are themselves lines.

### The Reader's Line Through Homer's *Lineam*

Homer's Odyssey, the poem on which James Joyce based his Ulysses is an example of the traditional use of the *linea* in writing. Here, Homer divides his story linearly in that each *linea* of text unfolds onto the next in a sequential manner. Things move in one direction: forward (or to the right in the textual sense). Odysseus' goal is to get home and he must go through a series of obstacles in order to ensure his arrival. Actions and events move towards a positive end. Each *linea* is necessary to the next to ensure Odysseus' arrival home. Likewise, each adventure is dependent on its place in the sequence so that the end (arrival home) can occur.

M. Berard, the literary critic writes of Homer, “He is at the greatest pains to compose and weld together his information in such a manner as to create a uniform whole. The Hellene is first and foremost a skilled arranger.” Homer's *lineam* forsake flow for the communication of his story via its division into digestable bits. In this sense, Homer allows for his tale to be reassembled in the mind of each reader. Each reader will create his/her own flow. In this context, Homer's *lineam* in themselves are quite finite, clues or building blocks for the infinite lively presence the story will attain in the mind of each of its readers. While each *linea* relates to the *linea* next to it and ultimately to the moment at the end when Odysseus arrives home, the *lineam* on paper are still discrete interrupted elements only brought to life and connected to become lines in the mind of the reader.

### The Line of *Ulysses*

Against this backdrop of Homer's *linea*, the radical quality of James Joyce's line becomes quite clear. Joyce uses Homer's *linea* and the lines constructed in the mind of the writer before it and the reader after it to subvert it. In Joyce's line, we ultimately confront Homer's *linea* and not Homer's *linea* and thus, I would argue, for the first time, see the line. It seems important to reiterate a statement from the beginning of this essay here: *His investigation of the linea necessarily involves not the linea*. At the culmination of this investigation, we encounter a transformed *linea*, one which is not only bounded by the not *linea* but contains within itself this not *linea*. This problematized not *linea* is actually the line.

Joyce structures his story of Harold Bloom's search for home around Homer's story (the *lineam*) of Odysseus' search for home. Bloom's search is framed by several other *lineam* including, the temporal aspect of the twenty-four hour day and the eighteen Homeric events and sites encountered along Bloom's journey. These frames along with line numbers which further structure the text constitute the *lineam* or communicative devices with which and against which Joyce allows his text to flow.
Case-Study of Joyce's Line

This system constructed from lineam with which Joyce creates his text is the same system the text constantly subverts. In the temporal sense, each chapter with its connected time of day always contains every other time within the twenty-four hours as well as times before and after this particular day's twenty-four hours. In Episode 11 based on Homer's "Sirens" episode, for example, Joyce makes Bloom and consequentially the reader move back and forth both inside of and outside of the text. When Bloom thinks, "I too. Last of my race. Milly young student. Well my fault perhaps. No son. Rudy. Too late now. Or if not? If not? If still?", the reader is referred to his son Rudy's death, his Jewish religion, his daughter Milly, his wife's affair with Blaze's Boylan, Bloom's own unfaithfulness to his wife, Bloom's impotence, Bloom's past with his wife, and his fantasies about his future with his wife. Aside from these references which Joyce asks the reader to make inside of the text, there are many other references which the reader is required to make outside of the text as well. Each of these references in turn asks the reader to make another set of references both inside and outside of the text. And the process continues ad infinitum.

An explication of this particular passage from "Sirens" helps us to understand how the text is read. This essay limits itself to Joyce's intertextual references as his references to places outside of the text are out of its scope of possible comprehension. To return to the passage, Bloom thinks about his dead son Rudy throughout the day and the reader must network back and forth through the text to accumulate information about this event. The reader's movement is also temporally unilinear in that Bloom's thoughts about Rudy make connections between past, present and future in no particular order. Bloom's connections between his tragedy and events in others' lives also subverts both textual and temporal linearity. In the "Hades" episode, Bloom thinks about Rudy while observing another man whom he assumes has a son; "Noisy selfwilled man. Full of his son. He's right. Something to hand on. If little Rudy had lived. See him grow up. Hear his voice in the house. Walking beside Molly in an Eton suit. My son. Me in his eyes. Strange feeling it would be."

Nietzsche's ideas about the horizon without which flow or life cannot occur are instructive here.


Not only are there too many to list, but each reader of Ulysses will make his/her own references and these references cannot be fixed; they are in a state of constant flux. Deleuze writes, "a rhizome ceaselessly establishes connections between semiotic chains, organizations of power, and circumstances relative to the arts, sciences, and social struggles." Boundas, p. 30.
Bloom also thinks about his religion which he calls a race in this passage and throughout the rest of the text. Again, each place this issue is brought up requires that the reader move to other places both inside and outside of the text. In "Calypso," while thinking about the waste land that Ireland is becoming, Bloom thinks about Sodom and Gomorrah which leads him to think about "The oldest, the first race." In "Aeolus," remembering a debate he had with someone outside of the text about unity in Ireland, Bloom remembers his opponent asking, "Why will you Jews not accept our culture, our religion and our language?"

Bloom's daughter Milly is also spoken about throughout the text. She is first seen in "Calypso" when Bloom brings her letter to his wife. Joyce writes, "Milly too; Mr. Bloom muses. 'Young kisses: the first...'." The reader acquires an understanding of Milly by moving back and forth through the text and by making connections to things or persons outside of the text to whom she is compared. In this particular passage, Bloom is remembering that Milly thought his wife's current lover Blazes Boylan had a pleasant voice.

Also in "Calypso," Bloom remembers the first time his wife met her lover Blazes Boylan. He remembers Boylan "Rubbing smartly in turn each welt against her stocking calf. Morning after bazaar dance when May's band played Ponchielli's dance of the hours. Explain that morning. Hours, noon, then evening coming on, then night hours, washing her teeth. That was the first night. Her head dancing. Her fansticks clicking. Is that Boylan well off?" Several other times during the day Bloom encounters Boylan in person; for instance, in the "Hades" episode after seeing Boylan, Bloom "reviewed the nails of his left hand, then those of his right hand. The nails, yes. Is there anything more in him that they see? Fascination. Worst man in Dublin. That keeps him alive. They sometimes feel what a person is. Instinct. But a type like that." For Bloom, like anyone who has been cheated on, there is nothing that does not incite a reference to Boylan; conversely, Boylan incites references to everything else in the world that disgusts Bloom.

Bloom's transgressions which his thoughts in "Calypso" refer to are first revealed in the "Lotus Eaters" when he receives a letter from Martha. Bloom thinks "Angry tulips with you darling manflower. Punish your cactus if you don't please poor forgetmenot how I long violets to dear roses when we soon anemone meet all naughty night-stalk wife Martha's perfume." Martha's name comes up frequently in the text; often, her name is mentioned because Bloom is deciding to end their relationship and is worried about how Martha will react to this decision. Martha's name usually incites references to biblical and mythic stories of infidelity. In this passage, her name leads us to a poem outside of the text which Bloom transforms when thinking about Martha. Soaps and perfumes which are mentioned here are also discussed throughout the text in connection to both Bloom's wife and to Martha.

The passage also refers to Bloom's impotence which is first mentioned in the "Lotus Eaters" when Bloom thinks about taking a bath: "He foresaw his pale body reclined in it at full, naked, in a womb of warmth, oiled by scented melting soap, softly laved. He saw his trunk and limbs riprippled over and sustained, buoyed lightly upward, lemonyellow... a languid floating flower." Bloom's thoughts about his impotence usually cause him to think about other stories of impotence outside of the text, the end of his lineage, what is wrong with his relationship with Molly, the future, the past....

Bloom remembers the better early times of his relationship with Molly throughout the text. In "Lestrygonians," for example, Bloom recalls when "coolsoft with ointments her hand touched me, caressed: Her yes open upon me did not turn away. Ravished over her I lay, full lips full open kissed her mouth." Throughout the book, he also hopes for his and Molly's future, dreaming for instance in "Nausicaa" that "plump ears dreams return tail end Agendath swooney lovey showed me her next year in drawers return next in her next her next."
The Writer's and Reader's Lines Through Ulysses

The whole text functions in the same sort of a cross-referential fashion as does this particular passage from the "Sirens" episode. Every passage asks that the reader move from it and to it with sources outside of and inside of the text. Located at a particular line in the text, we are required to move backwards and forwards within the text as well as to investigate outside sources such as Shakespeare's Hamlet, Irish History, the Odyssey, the music of Bach and Mozart, Dublin geography, anatomy, the history of language, rhetoric, Catholicism, Judaism and events in our own lives... Gilbert analyzes this particular way we read Joyce:

He who reads such passages with the parts kept mentally distinct in independent horizontal lines of melody will miss much of the curious emotive quality of Joyce's prose. To enjoy to the full the emotion of symphonic music the hearer should be well aware of it as a sequence of chords, listen vertically as well as horizontally... the affect of this technique is to thicken the texture of the narrative and especially the silent monologue. Certain passages, while they flatter the ear by the richness of their rhythms, demand the exercise of a keen memory and intuition for their complete understanding. Words are truncated, augmented, anastomosed. Phrases are clipped, interlocked.20

This passage from the "Sirens" episode which has woven into itself all other passages, texts and ideas is also woven into all other passages, texts, and ideas. The terms metempsychosis and Song of Solomon appear throughout Joyce's text and refer to an Eastern mysticism characterized by ideas of eternal return and all parts of the world being parts of all other parts of the world. In this very unilinear world, not only do all moments in time contain all other moments in time, but all actors and beings contain all other actors and beings. In Joyce's world, the linear action-reaction-culmination model does not apply; rather, all actions are necessarily reactions to all other actions reacting to these actions. For example, in the "Scylla and Charybdis" episode, discussing his theory of Hamlet, Stephen says,

He returns after a life of absence to that spot of earth where he was born, where he has always been, man and boy, a silent witness... Maeterlink says: If Socrates leaves his house today he will find the sage seated on his doorstep. If Judas go forth tonight it is to Judas his steps will tend. Every life is many days, day after day. We walk through ourselves, meeting robbers, ghosts, giants, old men, young men, wives, widows, brothers-in-love but always meeting ourselves.21

Along the same lines, in "Ithaca," Bloom thinks "to reflect that each one who enters imagines himself to be the first to enter whereas he is always the last term of a preceding series even if the first term of a succeeding one, each imagining himself to be the first, last, only, and alone whereas he is neither first nor last nor only nor alone in a series originating in and repeated to infinity."22 And finally, Stephen in "Circe" says "What went forth to the ends of the world to traverse not itself. God, the sun, Shakespeare, a commercial traveler, having itself traversed in reality becomes that self... Self which it itself was was ineluctably preconditioned to become. Ecco!"23

Joyce's formal use of the line parallels his conceptual breakdown of its A-B-C-D-E structure. In Ulysses, we experience every possible line construction from the word as line, to the fragment as line, to the traditional complete sentence as line, to the fluid run-on sentence as line. True to the ideas of eternal return inherent in metempsychosis and Song of Solomon, no line in Ulysses can be completed without all other lines inside and outside of, before and after the text. Lines are proven to be inadequate co-dependent structures. Moreover, they are shown to be entirely unrelated to the ways in which characters, their authors, and their readers experience the world. In Ulysses, we are always searching behind us and in front of us, outside and inside of the text. Our line is not a series of segments ultimately attached to make one big long line but rather a fluid dynamic line, stretching in all directions, always further than we can see, and always returning upon itself, rescratching and tracing over its surface an infinite number of times.

20Joyce, p. 601.
21Ibid., p. 412.
22Ibid., p. 411.
23Ibid., pp. 643-4.
Joyce's line resembles *linea* in that it marks a day June 16 and records it, separating the days and events on either side of it apart as before it and after it. Joyce uses this *linea* to its utmost as a place to draw, a time and place during, on, and in which things can happen. Ultimately, it is in the way Joyce draws his line and hence the way we read his line that he transcends and subverts the *linea*. Joyce's line is the most connective of things reaching to both sides of itself to incorporate them and in the process, allowing them to incorporate each other. Like Stephen says, "The fundamental and the dominant are separated by the greatest possible interval...which is the greatest possible ellipse. Consistent with. The ultimate return. The octave. What went forth to the ends of the world to traverse not itself."

It might be argued that in more linear works like Homer's *Odyssey*, the reader moves back and forth overlaying Odysseus' earlier actions on his later actions to create a nonlinear experience of the text. Perhaps. Ulysses' subversion of the line, however, lies in the way this line is drawn as well as in the way it is perceived. We cannot read Homer's *Odyssey* without recognizing the limits of the space of his *linea* and the distinctions between that which is located outside and inside of his *linea*. Joyce's all inclusive line allows the infinitely expanding flowing space of the text to be shared by the characters, their writer and their readers. A flow is always already inscribed in the text. In Homer's *Odyssey* the *linea* which separates its author's flow before it from its reader's flow after it is solid and impenetrable. The text is fixed as a border or *linea* between the author and the reader. Joyce's text as line is eternally unfixable and infinite as it flows and is created by the flow with, between, and through its writer and its reader. The extent to which Joyce's formal and functional line has ceased to function as a barrier, has consciously lost its sense of *linea* brings up the question of whether or not it is actually still a line. Has it subverted the line? In fact, it has problematized it. Joyce's line brings to the fore the internal contradictions and the richness of the line itself. In questioning the fragile line between *linea* and line on which the term line sits, Joyce brings us closer to the line. To maximally realize his line, Joyce needed *linea* as an other, as a framework within which and against which his line could manifest itself. While *linea* is markedly absent in the final form of Joyce's line, it is integral to its construction and realization.

I would like to close this essay with a passage from "Penelope" the final chapter in *Ulysses*. It is spoken in Bloom's wife's voice and as such, it represents the first female voice we encounter in the book. Mrs. Bloom's narrative is unpunctuated in form and content and demonstrates the unbounded quality of Joyce's line. This incredibly lyrical and beautiful "conclusion," a series of affirmations, is yet another beginning or return. Typical of Joyce, it is not only another beginning or return for the characters within the text, but it also promises a new beginning for their readers. As readers, we are invited back into the text with this whole new set of female references which inevitably bring up a whole new set of reference within their readers' lives. We bring these references back to the inside of the text, marking it as it returns to mark us. Together, these marks are always becoming an embracing line.

...yes he said I was a flower of the mountain yes we are flowers all a woman's body yes that was one true thing he said in his life and the sun shines for you today yes that was why I liked him because I saw he understood or felt what a woman is and I knew I could always get round him and I gave him all the pleasure I could leading him on till he asked me to say yes and I wouldn't answer first only looked out over the sea and sky and I was thinking so many things he didn't know...yes and all the queer little streets and pink and blue and yellow houses and the rosegardens and the jessamine and geraniums and cactuses and Gibraltar as a girl where I was a Flower of the mountain yes when I put the rose in my hair like the Andalusian girls used or shall I wear a red yes and how he kissed me under the Moorish wall and I thought well as well him as another and then I asked him with my eyes to ask again yes and then he asked me would I yes to say yes my mountain flower and first I put my arms around him yes and drew him down to me so he could feel my breasts all perfume yes and his heart was going like mad and yes I said yes I will. Yes.
horizon. To live you need to have ends to things because it's an issue of control. It's an issue of knowledge. On some level you know wh
A Bridge to Florence
James Wild

Program Derivation
As the center of humanism throughout the renaissance, Florence has become one of the most prominent art and architectural history capitals of the world. Its beauty, in fact, approaches what one may call ideal. Due to its treasures, Florence continuously plays host to an immense international population. Visitors are easily overwhelmed by the city and its beauty. It is difficult to remember, however, that it is still a city. It contains a local population who maintain daily responsibilities and carry out numerous tasks. With this flux of agenda, strains between cultures tend to become irrepressible.

While there is no way for Florence to deter the imposition of foreign inhabitation, there may be a way to alleviate the barriers. Through the offering of a cultural exchange, progress can be made for people to interact within a common place; specifically, with the integration of the numerous international study programs nested within the city. These institutions can employ an exchange of ideas within an interactive center and serve as a catalyst of mediation between cultures.

The conceptual priority for this project was to provide a common ground. A place where cultures may begin to understand and associate with each other through verbal and visual communication. This led to the notion of a structure to unite cultures - a linking of ideas to share within the realm of community. To capture its essence, it was decided to span the Arno with a construction to satisfy not only these dynamic programmatic needs, but also to generate pedestrian circulation within the specific urban context. The Florentine precedent of the Ponte Vecchio would be an obvious place to begin. Its history, however, contradicts with the very idea of social interaction.

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Figure ground of Florence at the Arno. 1. Piazza della Signoria. 2. Ponte Vecchio. 3. Palazzo Pitti. 4. Uffizi Corridor 5. The Site 6. Boboli Gardens. ('Vasari corridor' shown darkened).

The ideas of span and transparency were priorities for the bridge.
Historical Urban Constraints:
During the Renaissance, extensive urban progress was made under the Medici rule. The Uffizi was added from Piazza della Signoria south towards the river as an elongated corridor to link it with the northern bank of the Arno, while the Piazza itself was re-oriented with statuary, (including Michelangelo’s David). The Palazzo Pitti along with its immaculate Boboli gardens, was developed in Oltrano, (the southern bank of the river), as the suburb estate for the ruling class. While the Palazzo Vecchio (then Palazzo Ducale) remained at the Piazza della Signoria as an icon of stability over Florence and Tuscany.

Still, there was great animosity towards the Medici. So much so that segregation between the ruling class and the Florentines became imminent. A secure link was finally proposed to circulate between the two nodes of government. Giorgio Vasari, the Medici architect of choice, was commissioned for the project. The solution was to elevate an enclosed corridor beginning from the Palazzo Vecchio, moving south through the Uffizi, from east to west along the northern bank of the Arno, intersecting with the Ponte Vecchio over the Arno, and continuing south behind the facades along Via Guicciardini, to Palazzo Pitti.

The reference to end at Medici dominance was made quite literal in this urban extrusion of shielded circulation. While the Vasari corridor now exists as an annex to the Museo degli Uffizi, it remains as an enduring icon of the Medici rule.

As arguably the most vital portion of the Vasari corridor, the Ponte Vecchio is the oldest existing bridge in the city. It has been rebuilt many times due to flooding and strategic attacks. It rests at the original southern Roman cardinal gate and was primary entrance into the city during the republic and the empire. As the city flourished through the medieval period, Florence expanded outside of its original Roman grid and added a series of walls to protect the new areas. Upon continuous expansion and congestion, it was realized that a bridge could also be built upon. Initially, butchers and tanners occupied the Ponte Vecchio; but after their associated stench became overwhelming, they were evicted and replaced with goldsmiths and jewelers who remain today. Other occupied bridges of the time included the Ponte della Grazie and the Ponte San Trinita, both of which were rebuilt after their destruction in World War II. The Ponte Vecchio was spared.

The conception of span. The suspended open amphitheater provides views away and through the bridge to the immediate context.

The New Bridge extends pedestrian circulation between the banks of the Arno.

generalizing these things. What happens is we break them down into smaller fragments and smaller fragments. Maybe it shouldn’t be
Conception and Execution
To integrate a new bridge within the urban fabric of the city requires a sympathy to its current urban form as well as to its history. While parts of the city center are for pedestrian circulation only, there are also areas of vehicular domination. The Piazza del Duomo, in fact, is systematically infiltrated by city buses which roar into the once sublime space. Unfortunately, the current urban planning practice is bound by restoration and renewal rather than future strategic conception. Not since the medieval walls were demolished to make way for a circumventing viale, has there been a new urban agenda. The city, it seems, has lost its momentum progress and is relying on its past to maintain its present and to likewise ensure its future.

The site chosen was from the facade of the Uffizi at the north bank of the Arno to the Piazza S. Maria Soprarno at the south bank. To integrate a new pedestrian circulation within the current pedestrian corridor was the determining factor. The pedestrian way is not only continued but recirculated from bank to bank. It would now be possible to return via the new bridge after crossing the Ponte Vecchio.

The procession of pedestrian circulation actually begins at the Piazza del Duomo where Brunelleschi's dome rests on Santa Maria Del Fiore and orients one immediately to the center of the city. From here one continues south along Via de' Calzaiuoli where the pedestrian street filters into Piazza della Signoria where the Palazzo Vecchio reigns as the city's foundation. The procession continues south through Piazzale degli Uffizi (the Uffizi corridor) to the bank of the Arno. The narrow configuration of the Uffizi corridor accelerates one to an abrupt halt at the northern bank of the Arno where it seems to beg for an extension.

The new bridge ramps off of the embankment and briefly redirects pedestrian circulation to east/west then returns to north/south where a transparent volume containing the program is anchored (here is the only place where the bridge physically interacts with the water). The volume is structurally articulated relative to the rational facade of the Uffizi of which it reflects. While it is placed proportionately with the bridge as a whole to the scale of the opposing banks (Oltrano is much less dense than the rest of Florence to the north). The volume contains the program and also acts as the threshold between banks.

Programatically, the first level contains exhibition, orientation, workshops and offices; the second level art, architecture and planning studios; and at the third level living, eating and bathing services. South of the volume the corridor continues to a suspended amphitheater which culminates the sequence from either direction. From here to the southern embankment the bridge continues with pedestrian circulation and delicately engages the earth.

The idea of material transparency occurs simultaneously with the contrast to historical nobility and the inherent need of lightness for the bridge to span. While associating literally to the building typology of the occupied bridge, the new construction evolves into a new icon of exchange and interaction.
because of the direction our culture is taking and the way things are becoming more and more fragmented and broken down and isolated.
The use of underutilized wood resources in building construction is the basis of this joint Masters Thesis investigation. The primary issue explored was the use of innovative wood construction in relation to both materials and methods to achieve a system of components easily assembled in a variety of locations. A Forest Pavilion located at the north end of the Mackinac Bridge in Michigan's Upper Peninsula has been the vehicle for this investigation. Specific criteria were developed in close cooperation with the USDA Forestry Service to guide the development of the project. They relate to the functional needs of the pavilion, and explore new uses of wood and wood products to:

- utilize wood as primary structural & cladding material
- design for ease of assembly
- minimally impact the natural environment
- allow for adaptability of use

Early in the investigation of these issues, a fundamental question arose: what does it mean to use wood in an innovative way? It was felt that many of the richly varied material properties of wood should be captured in the overall spirit of the project, and that these should be exhibited in both the method of construction of the pavilion, and the specific materials and products used.

The Forest Products Laboratory (FPL) of the USDA Forestry Service in Madison, Wisconsin is a leader in the study of wood and wood products. A center for scientists, researchers, and engineers, the FPL is dedicated to the advancement of knowledge relating to all aspects of wood usage and forest conservation. It was in the course of making with members of the FPL that questions concerning the innovative use of wood were raised. The need to thin the forests of small diameter trees in order to maintain a good growth arose through these discussions. This was needed to focus the Silva Studies. Currently, the market for small diameter trees is limited, which reduces the economic incentive for the necessary thinning. The traditional practice of controlled burning to alleviate the density problem has been found inappropriate due to the air pollution concerns as well as the inherent danger of the practice. By using these small diameter trees as a major structural element of the pavilion, it could become a demonstration project for the potential of small diameter timber, harvested by mechanical means from the forests that cover much of the region. Among the ongoing investigations being undertaken at the FPL is the development of non-destructive method for determining structural capacity of these trees in a variety of loading conditions. This will also increase the feasibility of their use for construction in the future.

Paul Warner and Craig Synnestvedt are recent graduates of the Dual Masters Degree Program in Architecture and Construction Engineering + Management. Brian Carter and Craig Borum acted as faculty advisors for the project. Daryl Dean, Lola Hislop and Ron Woods of the USDA Forestry Service have given valuable assistance throughout the project.
The Silva Studies highlighted how regional Native American structures provide an excellent example of small diameter tree usage in structures. The longhouse, a traditional shelter of the Ojibwa Indians, inhabitants of the Upper Great Lakes region for centuries, consisted of a simple structural bay repeated as many times as necessary to accommodate the needs of its inhabitants. Willow saplings, with the heavy end posted into the ground, were bent and lashed together into a frame to create a barrel vaulted space. This frame was then covered with animal skins, cedar bark shingles, or reed mats to enclose the interior space. A gap in the skin of the house ran along the ridge, providing ventilation for cooking fires.

Several families would share the dwelling, using skins or woven material to create interior partitions. While the center aisle of the house remained open for cooking and communal activities, the sides often contained structures for drying racks and sleeping lofts. As the Ojibwa were a nomadic people in a harsh climate, the long house provided them with a relatively large structure which could be easily transported, made use of available materials, and provided adequate shelter from the inclement North.

In order to create a simple structural member that could be used in a repetitive bay system, it was determined that trusses could be made by bending a single tree with the use of a steel tension cable attached to each end.

The first full scale truss prototype was fabricated from a 30 foot ash, four inches in diameter which was harvested locally and stripped of its bark. It was then fitted with hardware, and bent while still green. A single cable provided the tension necessary to maintain the form of the arch. Steel flitch plates inset into each end of the tree provide a fixing point for the cable and connection of the arch to the building.

Struts tie the cable to the tree at consistent intervals along the length of the truss and serve as fixing points for the exterior cladding where the cable and strut intersect. Adjustments in the length of the struts allows for variation in the bend of individual trees, while maintaining a consistent cable line for connection of cladding panels.

This truss exhibited a high degree of deformation under uneven loading, and also exposed the timber to the elements, so an alternative cable arrangement was developed as well as a system of attaching the cladding to the outside of the arches.
Just as the Ojibwa Long House accommodates multiple families and uses, the proposal for the Forest Pavilion. The trusses were designed for a Forest Pavilion to house several functions. The Pavilion will accommodate two government agencies: the U.S. Forest Service (USFS) and the Michigan Department of Transportation (MDOT). It will provide exhibit space designed to educate the public on the work of both agencies. It is also important that the building itself demonstrates the potential of wood products. By developing a clear organization, visitors will be able to understand the construction of the building.

In addition to exhibit space for the USFS and MDOT, the Pavilion will also provide toilet facilities for visitors, as well as office and storage space for the agencies.

The toilets, as well as the office, storage, and mechanical room are housed in a linear block which defines the front of the building. It is constructed of dimensional lumber frames and insulated sandwich panels. The block in turn supports the end of the arched structure of the exhibit space, which runs the length of the building.

The roof of the exhibit space consists of interlocking sandwich panels. These panels were chosen for their efficiency in providing both insulation and structural capacity. The panels are clad with a rainscreen made from sheets of a recycled plastic-wood composite. These panels are supported by the arched timber frame. By placing the roof shell to the outside, the arches are protected from large changes in moisture content, and the stability of the system is enhanced. Based upon earlier experiments with the arches, a segmented cable overlapping cable configuration was adopted. This provides adjustability in the shape of each arch and inherent stability.

Light enters the exhibit space through a south facing clerestory window. Louvers provide shading for the glass during the summer months, while allowing solar gain during the long winter. The building faces south, with the arched roof facade providing shelter against the severe northeasterly winds. The arched roof also allows snow to slide off, minimising excessive snow loading.
The problem that arises is that it's a generalization again. I'm trying to talk about felting versus weaving. And weaving..
Detailed elevation of main entry.

Section model of building, showing frame and panel construction of the front zone of the building and the arched timber system of the exhibition space.

Detail of arched timber structural system with roof shell removed.

defining as some kind of definable network where you have points and has an ending. Where do I begin to talk about felting, which is this
A primary goal from the beginning of the project was to fabricate a section of the building at full scale. Much can be learned from the process of construction which is often hidden (or ignored) by merely drawing.

The design of the building was directly affected by the means and materials of its construction, the nature of which was only discovered by actually building. Ash was chosen for its strength, flexibility, and straightness. The trees were harvested from a forest 150 miles north of Ann Arbor. As with the earlier prototypes, arches were fabricated while the trees were still green.

Once fitted with hardware, the trees were bent into the arches. After anchoring the heavy end between two parking bollards, the tree was bent using a truck. The cables were then attached and tightened. Everyone backed away and the tree was released by the truck. While the cables never failed, the end loops, turnbuckles and links failed during the first three attempts. Once the components were sufficiently strengthened, the arch was sound. In order to be used in a structural application, hardware of sufficient strength to carry the imposed loads would be used.

Because no two trees bend in exactly the same shape, the arches had to be ‘tuned’ by adjusting different cable segments, resulting in only a relatively small amount of variation from arch to arch. The remaining variance is accounted for in the system which connects the roof panels to the timber arch frame.
Band-It™, a product similar to metal banding for packing crates was used to attach the cable connections without damaging the tree.

Completed timber arch, which demonstrates the portability of the largest single element of the building system.

Purlins which support panelized roof system were connected to the timber arch by "lashing" with metal banding.

Full size construction of one bay of system.
End connections of the arch were designed to secure the arch without damaging the fibers of the tree. Consequently, the strength of the tree was not compromised. A simple pipe fitting slips over the end of the tree, held in place by the end cable in the arch.

Two angles were welded to a pipe section, providing end bearing for the tree and the pin joint which connects the arch to the structure. A gap between the angles provides a weep-hole for any moisture that might occur in the connection.

All the steel fabrication and welding was performed in the College workshop. Actually performing the metalwork was crucial to the understanding of differences in materials, and their appropriate uses.
Since some variation in the profile of the arches remains despite the cable system adjustment, the roof panel assembly had to provide the necessary tolerance.

The roof shell is composed of a series of overlapping panels, which provide flexibility as well as some dimensional adjustment. It is the panel connections, however, that mediate between the precise nature of the shell and the organic nature of the arches. These panel connections attach to a series of purlins 'lashed' to the arches with metal banding. By providing adjustments in length, position, and angle, the position of the panels can remain consistent despite the variation from arch to arch. In addition, these connections support the roof panels independently of one another which allows the building to flex without damage.
The Theory

To disperse the univocality of a “Master Plan” into an aerosol of imaginary conversations and inclusionary tactics.

To bring in rather than leave out.

To make signs.

To re-naturalize.

To question the priorities of style and taste.

To anticipate change and invite alteration.

To construct a cycle of repair and discovery.

To question the limitations of vocation.

To be brought down to earth.

To make the permanent temporary.

To see the forest for the trees.

To have no end in sight.

The Program

To restructure the approach to the museum.

To allow for laboratory settings for artists and designers.

To provide a visible, inexpensive, short-term botanical strategy to alter the place.

To introduce movie-going, walking, wading, eating, reading, bird watching, relaxing and other familiar pleasures.

To punctuate the site with regional, cultural and vernacular signage.

To replace the forest that’s been lost.
The theme for our book is the line. Can you comment on this theme?

Catherine Ingraham brought this issue to my attention—theoretically speaking—in her essays *The Burdens of Linearity* (forthcoming publication). She points out that the line in architecture has meaning and can have history. It has thickness and space; that it is not blank. In relation to our work, the line in the wire frame drawings on CAD is important in the spatial possibilities that it offers. These wire frames are the way we conceptualized the space in, for instance, the Samsung building and even the Rotunda Gallery. Collapsing the lines allows for multiple readings of space, and a possible multiple reading of the events and activities [in that space]. The collapse allows for readings of threshold, adjacency and connections.

I am interested in your background as a sculptor. In your work it seems like you really articulate materiality—you have a real sensitivity to materials—their roughness, their smoothness, their translucence, their opacity...I am curious how your background in sculpture has translated itself and found itself in your architecture.

I was in art school in the mid seventies at Berkeley and was surrounded by and very influenced by people who like myself were focused on conceptual art which sometimes would involve materiality. But what I was most interested in was the type of site-specific work Robert Morris and Richard Serra were doing. I was actually operating in a site-specific situation so I would always use parts of a site or room to kind of settle and that’s how I got very interested in architecture. I was stimulated by the space I was in and questions about how I was going to use the space. I thought about the scope I was in and how I could act to make a kind of immaterial work.

Before I went to architecture school, I did this independent study at the Whitney Museum in New York and then I worked at the Institute of Architecture and Urban Studies where I ran the exhibitions. Because I was interested in architecture, I got to know many people in the architecture community by being at the Institute. Peter Eisenman ran the place and Ken Frampton was there. It was an amazing place at that time and so after that, after working there, I decided to go to architecture school and I went to Cooper Union because I’d been involved in an exhibition of John Hejduk’s work and I was really taken by it.

When I went to architecture school, I had no intention of becoming an architect. I went to architecture school because I wanted to learn more about architecture and I thought the only way I could do that was by becoming involved in a program. A friend of mine said to me “you will become an architect” and she was right because once you go through the process, through the program, you change forever and you see the world differently. That’s why I am very interested in the conceptual issues of our work and the idea is very important. There’s a big difference for me between building and architecture and I don’t know if that comes from my interest in art, architectural art, but I am still very interested in the work that was produced at that time [when I was in art school].

Laurie Hawkinson is co-founder of Smith-Miller + Hawkinson Architects, New York. Laurie received a B.F.A. and M.F.A. from The University of California, Berkeley, and a B.Arch from The Cooper Union.

This interview with Laurie Hawkinson took place on 19 November 1996 following her visit to The University of Michigan. It was conducted by one student who had worked at Smith-Miller + Hawkinson Architects, a second student who was familiar with their work, and a third student who was not.
You ride that line between architecture and building. Do you consider yourself a builder too? Is an architect always a builder?

When I said I consider architecture a discourse and a discipline, it's not just the building; it's as much this conversation, the conversations that you have in studio, the process of thinking about the building, the drawing searching for things... that is architecture as well. It is all a kind of framework for a discussion. The conversations we have here are very different from the conversations we have in the art department although there may be similarities and shared issues of materials or shared issues about ideas.

For example our idea about a transformer—I can probably write a film about that, make a sculpture about that... Once it enters the realm of architecture, there are issues which are addressed and discussed. Architecture has a relationship with the world and with culture. I was never someone that kind of worked with clay or made a bronze model. I was interested in an idea. An idea can be manifested in any material.

You present the North Carolina Museum of Art as a product of the collaborative process. Can you describe this process and evaluate its success for you?

We made a rule as a team—it takes a lot of trust, you have to really trust and respect the people that you are working with. If you don't, it doesn't work. We decided that we'd only design in the kind of schematic sense when every member of the team was at the table so that you couldn't go away and design something and be done. You could work on something and bring it back through. Barbara always says, she didn't wear her beret and I didn't walk around with my beeper hanging off of my belt. We traded roles all the time. For instance, the phrase "Picture This"; we all picked those words. Barbara didn't just come in and say "I want these words." We all sat down and said, "What about this? We want something short. What if we place it here? We want to fit it here..." and then of course Barbara had things to say about the roof... And with Nicholas Quennell I had a certain handicap because I don't know his field but we had ideas about how we saw the landscaping and then we would ask his opinions.

We really worked very hard at having an exchange, being a team, and you have to do that. If you have people that you respect there and you are interested, they bring something to the table. Everybody brings something particular to the table but you also have to be willing to let go of your own and what you think is your turf because otherwise it doesn't work.
Having gone through this collaborative process would you pursue another project that involves collaboration?

It was a really good experience. We are going to enter another competition. I enjoyed it because I like learning new things, I like being open to new materials, letting the new materials come into play. You have to not have preconceived notions about how you want the thing to turn out. You have to give yourself over to the process because the process is what gets you to your end result. It's like in studio, when you start, you have no idea how this rock idea is going to become a building but you have to have enough faith in the rock idea and in your direction about it so that you can go with it.

We wanted you not to be able to tell, we wanted you not to be able to recognize the roof as ours, the words as Barbara Kruger's, the landscaping as Nicholas'. It really wasn't like that. It was a very pleasurable experience, knock on wood. Barbara is very knowledgeable about architecture, she's very well read. She's not someone painting in the studio by herself. Also, she understands a particular part of the process of architecture because she does work within the public realm. Negotiated process: this process is one of the hardest things for artists to understand about what we do. They are not always located in the public realm. They are not used to having someone tell them "No." We're used to this process of reworking things. You do something and then someone tells you "No" and then you regroup and come back with something else. For this project we didn't have a lot of that but a building is a give and take with a client. What is it that Lou Kahn said? "It takes a really great client to make a great project."

I see your design process as non-linear and dynamic. I see this sort of process in conceptual art as well. Could you discuss this process and how and where you learned it?

I think different people have different ideas about conceptual art. On Monday, Columbia was having a symposium on conceptual art and architecture. Rosalind Krauss was there. She was telling everyone what conceptual art was and what it wasn't. And different people, myself included, were like "I don't agree with that. For me conceptual art is..." But maybe you're talking about process. You invest yourself in the process. We try not to have a preconceived idea about what the building is going to look like. We try to be open, open to the client and to the site; to take information in from them. In that respect, our process is a rejection of process in the traditional sense of it. Traditional process starts out already knowing what the building should look like. Process in that traditional sense is there to realize the already known end product.
Along the lines of process, if you were to generalize about your process, would you characterize it as inductive or deductive? Do you start with smaller issues, a detail or a particular structural system for instance, and move your scope outwards or do you start from a wider scope and zoom into the project?

I think it's about gathering as much as possible. We gather maps and talk with people. We burrow in as much information as we can find. We're probably more analytical. We don't do a site analysis per se but we analyze things like culture. Unexpected things happen in the realm of the project. In the North Carolina project, for instance, we interviewed everyone in the museum. The reason it's a cinema is that we found out that the museum had an amazing educational department with an amazing film program going on. We thought we could take this thing outside. We took this program that we found already there and decided to show it to the outside. The museum didn't know what to put out there and because we were helping them with the program, we tried to sell the cinema. They had thought they were getting an art project. We tried to dispel that on the way.

We had to give a slide presentation to the Board of Trustees and we told them that we did not want to replicate another condition. We wanted to make art in which you might discover art rather than making art which was an object on the landscape. We wanted to make art in and of the landscape. We developed this interest and this cinema program we had found as part of the conceptual project.

Program is very rich. Program is very important. It is for you to interpret program. Who is to say what a house is today? Does it have a fireplace? Is it for a nuclear family? What role does the living room play? Is the kitchen maybe outside now? All of this is sort of up for grabs. It is there to be analyzed and reanalyzed. Part of this process of grabbing information involves deconstruction the information. We're taking it apart more and more as we look for other latent issues and materialities.

You have talked about computers being a part of both the process and the final product. How do you think that this "tool" impacts both process and product? Does the project with a computer process look different in the end than the project with a pencil process?

I think that Battery Park City was designed on computer and it shows. The buildings are somehow AutoCad drawings. They are flat. In the North Carolina project, I don't know what we would have done without the computer. It was the first project we really put on computer. We also work a lot in model which kind of balances the computer. The Shilla project was done on computer in the production sense. It is so early in our knowledge about the computer to evaluate these things. For us, North Carolina was
matter how much stress there is in the world or how much stress I think there is in the world, at the end of the day, in order for me to get
such a weird project anyway. Trying to put something like letters into the landscape is incredibly complicated. You would go crazy doing those calculations of cut and fill manually. No one could do it single-handedly. There are very complex projects, like those coming out of Norman Foster's office, for example, that would probably not be possible without computers.

People like Greg Lynn use computers more as a process tool or more conceptually than we do. We have a couple of animation programs that came to us from the film industry like Alias and they were developed by architects in Toronto for the animated film industry. We use these programs to create animated models at Columbia. It is very interesting that a program that was developed to animate the body in space is now being used by architecture. There are layers—the membrane, the skeleton, whose movements have certain limits. Greg is using that to animate figures and points on and off of a field and he takes that field that results from the animation and builds it. It is a kind of morphing. Do you know that Michael Jackson song where they have him make all of those different faces? Greg uses that morphing program to morph different things together into a building. Software is everything. It gives you a good set of rules and you can work with them. AutoCad and Form Z are old dinosaurs. They are easy to learn but you can't cut sections.

• **As a woman in the field of architecture, is your role gender-neutral?**

I'm not sure I understand your question. I don't believe anything is neutral. Issues of race as well as gender are issues of power and we all are confronted with this issue on a daily basis. In architecture, there has been a tendency to ghettoize women, as if these issues (of power, race, and gender) can be checked off the list with an article, a lecture series, a symposium, an issue of a periodical. These are issues which require daily work.

• **Does teaching architecture play a role in your practice?**

It certainly does. The teaching environment allows for more opportunity in the research and experimentation of a project/concept. In the studio, a series of issues can be explored in a more relaxed time frame. There is an opportunity to get into the material of a particular idea with very smart students, and explore all possibilities. Grad school is much more than practice; I always say that it is the first half of one's education, and working in an office is the other half. In school, there are no clients, so students can develop their own interests; there's more time in conceptualizing a project. A series of issues can be dealt with, for example, grad students in my studio at Columbia University are working on a competition for Davis Island in NY. We are dealing with a site that is an island. So we are reading about ideas of Utopia, we use theoretical texts to frame and direct our investigations. We are also interested in other concerns such as the notion of the synthetic landscape and how it is constructed.

• **What is the relationship between theory and architecture for you?**

The relationship is like an asymptote. The relationship is very interesting to me, however the results are sometimes difficult to read in the finished or built project. I'm very affected by the writings of theorists/critics/writers such as Catherine Ingraham, Mark Wrigley, Robin Evans for instance. They play a part in one's conception of the project and foreground one's thinking of the project. I am very interested in theory circulating into architecture in any way it can.

• **Can you discuss your interest in working with film and video environments, first with the Cinetrain, the monitors of the model apartment and the projection both of North Carolina Museum of Art.**

The Cinetrain was my thesis project at Cooper. I was specifically interested in film and film theory and its possible relation to architecture. I was interested in exploring the apparatus of film and and exploring the
spatial constructions of film in architecture; of the relation of a subject and an object. That interest has continued most directly in the North Carolina Museum project (the Model Apartment, the Rotunda Gallery), in the NCMA project, the projection both for the outdoor cinema acts as a (theoretical) hinge between the two spaces. In the Model Apartment the television/monitor acts as an additional window in the apartment. It is hung on a track which moves diagonally across through the apartment. The apartment had a compromised view caused by an adjacent building, so we thought that the monitor could offer another view. It could then be a roving window within the apartment (with the camera placed outside the building).

- How did you engage the use of language (text) in the scale of architecture at the North Carolina Museum of Art?

Text became architecture, it became part of everything and its tremendous scale helped to do that. Because space is occupied sectionally with the size of the letters, one doesn’t always see them in plan but sometimes parts of the letter slip up into section and you are led to recognize them. There proved to be something extremely unusual about working with very large letters which was different than regular form—they are immediately recognizable and one is always looking for them in the project when occupying it—and the funny thing is that at 80 feet in length, they are not always easy to find!

Excited by the collaborative
The spaces I have found so far in Prague are unlike any I have seen or felt in my life, particularly the squares and the narrow streets. Compression and expansion undulate throughout the city in the same manner as the medieval plan which twists and disorients me. The only way to navigate is by landmark, street sign, map, and familiarity, the latter of which I do not have but am slowly accumulating.

...I still have no grasp further than the observations that I have made. The contrasts and juxtapositions of things are overwhelming. I am fascinated by the undulation of the medieval plan and the spatial explosions which result from it. Further are the amazing combinations of buildings and styles which grow out of the same footprints: Modern, Cubist, Art Nouveau, Baroque, Gothic, Revivalist, etc. all occur or can occur literally on top of each other. It’s amazing how bluntly things are treated yet how terrific they can be. The detailing of the city is incredible as well - the paving patterns, the street lamps, the door handles, etc. are all striking in their own way, sometimes through repetition, or variety, or embellishment. The thing about this city is the density and opacity of everything, and the awe or surprise that occurs when it disintegrates. It’s not that it dissolves, but it wraps away from you and back into itself. Like a circulatory system, (blood type) it happens so naturally, consistent accidents/occurrences which qualify the next addition to the collage. The physical qualities aren’t the only thing, the people, the noise, sound, the smells, the weather, the language all intensify the sensation of the spaces and places. The language, for me, seems to share an analogy to the physical qualities of the city - its opacity, and thickness is like that of the city. It feels like something I can scarcely penetrate, yet when I feel I make progress simply by handling a word or street name correctly, the achievement is like the suddenly wide open space of the square, which then quickly contracts back into its tight, dense condition.
An Archive for a City like Prague

Chris Knapp

Typically, the design of an archive—that which collects and records the history of a place—would be entrusted to someone who knows that place intimately, and perhaps has even lived there their entire life. Given the intention to design an archive for a city like Prague, our position as displaced westerners is contradictory to this assumption. Therefore, our inverted expert status demanded a study of the city in order to create the archive.

Journal entry describing perceptions of the city after having just arrived three days earlier. The underlying text is Charta 77, the manifesto upon which the Velvet revolution of 1989 was activated. Submersion of westerner into Czech culture. grid signifies the western attempt to organize and understand the medieval and contemporary patterns within the city.

Chris Knapp is a senior B.S.Arch. candidate at The University of Michigan, and is the 1996-97 Willeke Prize winner.
We will explore the city through the making of an archive.
We will explore the archive through the making of a city.

Our initial investigations lead to the production of artifacts to be housed in the volumes of the archive: one text, three photos, and seven maps. The intent was to harness in these artifacts the extraordinary within the ordinary. Further, the brief called for this archive to consist of three rooms, stacked vertically upon the site, along with accommodation for a caretaker's sleeping, eating, bathing, reading, and cooking spaces.

My position, given the brief to create the public architecture of an archive, was to make manifest the experience of a westerner's reading of the city. This manifestation was intended to translate this set of experiences for the citizens of Prague, enabling them to begin to understand the phenomena which exists there, given the city's recent socio-political history, which makes Prague unique to Europe. This would be done through exposing the extraordinary characteristics of ordinary icons within the city, which would become the artifacts to fulfill the program of the archive: a national charter (one text), a tree in an urban park, a doorway to a housing block, a portion of the Charles Bridge (three photos), and a horizontal section through a portion of the primary public space (seven maps).

positive science meaning the correct way of doing things, the one way and the way that way has controlled its understanding. Through that
In the making of the maps (line drawings) is the architectural embodiment and exploration of the discussion whose premises were found in the journal entry, the photos, and in initial experiential exploration and observation of the city itself. This process begins with the manipulation of factual plan data gathered from a niche of Old Town Square. In this appendage of the main public space of the city are all the typical formal, experiential, and cultural conversations of the city which were found to be compelling: compression and expansion, thick space and thin space, old and new, western and eastern. These dialogues present themselves in the form of architecture, urbanism, politics, economics, language, and transportation throughout the city. The drawings follow a pseudo-rigor which is characterized by an intention to bring forth observations about the physical and sensual characteristics of the city, while at the same time allowing for experimentation in line character and technique to occur. The final set of sections defines a set of spaces and surfaces whose juxtaposition identifies the extraordinary and contradictory elements of the city.
places are questioning a lot of things and saying, "wait, you don't have to measure this way. You can do it this way." That kind of
Lines of Site: between figuration and abstraction
Craig Scott

The two projects presented here are part of ongoing research into the territory between figuration and abstraction -- more specifically, how lines of underlying structure, force and contour may be drawn out of site circumstances, strategically deployed and made manifest as figured reverberations into the work...

It is in the particular configuration of the section where this is played out, whereby the projects' plan may be more autonomous yet site-inflected, while the section takes up strategies of groundworks and artificial topographies to graft these buildings/landscapes programmatically and experientially into their sites.

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Atlanta is a city of whose public realm is largely made up of privately owned urban-scale rooms. The city's false topography, made up of layers of infrastructure, often serves to increase the privatization of the public realm by privileging certain constituencies. An example of this is seen in the development of "Portmania" with its aerial circulation network and huge inward-turning atriums. It can also be seen directly adjacent to this project's site in the raised circulation system serving the Omni/World Congress Center/Georgia Dome complex—all of which present hard shells at their exteriors which shield the interiorized spectacles they house. The existence of an older, small-scale residential/educational district to the west and a more sparse district of partially operational industry and newer housing to the south are not only ignored in the handling of the landscape that this complex forms, but these neighborhoods are also severed from access to the site by thirty foot retaining walls at the west and south edges.

"Public Space in the New American City"
Design Competition Site D: "Parking Wall" received Honorable Mention
The project deploys the existing tactics of Atlanta’s development in the form of a countermeasure, using infrastructure strategically while defining a figural void at a scale which can rival the surrounding privately controlled versions. Driving the project is the idea of excavating the space of the stadium, the arena, the convention center, the atrium, exposing it to the exterior and providing an excess of access, uncontrolled at its periphery. The parking lot provides unsuspected opportunities toward making usable public space. It is an everyday place where spontaneous events, encounters and alternate use are still possible, such as flea-markets, temporary car washes or simply skate/rollerblading.

To further foster such non-determinate occasions, as well as to invite other appropriations, certain designed conditions are proposed which also respond to the site’s specificity. A “city-scrim/public canvas” at the site’s eastern edge is perched above a berm, both of which establish a newly constructed horizon and frame for the city skyline beyond— in such a way that the ‘middle ground’ between the site and the city is visually collapsed. A re-working of the ground achieves this condition while creating a slightly dished surface to the parking, which is reciprocated in the groundworks of the “event lawn” to the west. This figure recollects the section of the stadium, with earthen benches carved-in next to the church, while allowing public restrooms and pay phones to be hollowed out from under its northern edge facing the Georgia Dome and adjacent to the east/west pedestrian corridor planned for the Olympics.

Also responding to the increased density of program along the site’s northern edge, is a series of niches between the structural piers of a "canopy/observation deck", which can be used during the Olympics and after for concessions and newstands. On the parking side of this element are communications hook-ups for media events. The observation deck surface is at the level of the Georgia Dome/Convention Center concourse, the activity of which can be seen through the Dome’s 'hermetically-sealed' corner curtain wall and central lounge. The site’s southern edge has been treated as a series of compressed vertical retaining surfaces that define a network of ramps and stairs which scale the existing retaining walls, connecting the site to surrounding neighborhoods.

The materials of construction are: earth, cast in place concrete, asphalt, embedded railroad-tie crosswalks and parking space markings, embedded river-rock walking surfaces, fine-mesh chain link, standard highway pre-cast retaining systems and exterior lighting systems.
While providing a center for Korean arts in Los Angeles, KOMA also exists as a "coming together" of Korean and American cultures. This double condition of the institution informed the beginnings of this project. It has been argued that the boulevard constitutes the public realm of Los Angeles. The project's initial gesture makes a public auto-passage through the site along the northern edge as a new street connecting Irolo/Normandie and Mariposa. This new street, with its artist mural-installation wall fosters an interaction between the culture of Korea and the culture of Koreatown and provides an 'art diversion' from the commerciality of Olympic Blvd. It also feeds the auto drop-off and parking ramps which make up the building's groundworks. To strengthen the typically under-considered transition from driving to walking, in a city where the car dominates daily life, the project's sectional configuration extends the the spatiality of ramped groundworks and void space from parking below up into the building. This becomes both a way of organizing the vertical movement between major program components within and a means of bringing light deep into the heart of the building.
The seemingly endless horizontal expanse of the 1-mile street grid in LA is most extreme in the mile-wide N/S strip between Western and Vermont which Normandie bisects at the 1/2 mile mark. Yet this is also where Normandie, at Olympic Blvd. between Pico and Wilshire, jogs east and west of its otherwise centerline position. Olympic as well jogs from the typical 1/2 mile shift position of major boulevards. These 'aberrations' in the grid of LA’s 1/2 mile-apart major intersections is most profoundly felt while driving, where the effects of a curve or jog let the site achieve landmark status in one's memory. An aim of this project is to investigate whether these aberrations can be made experiential through an underling structure which grafts the building onto the spatial comlexity of the site.
But Philip, who's questioning that fragmentation? / People are trying to act positively by trying to resolve it in a traditional sense. / To br...
The street pattern's structural aberrations, in addition to a slight north-south slope to the site, are made to reverberate through both the plan and section of the building. These spatial reverberations combine with an underlying structure (spatial and constructional) which attaches to the site's former subdivision into 14 46'x128' individual lots. This grounds the project in both the larger LA context and the immediate context of the site. The building also adapts the standard LA Blvd. cross-section — distributing public/larger scale program at the front of the site (Olympic) and private/smaller scale program at the rear of the site, abutting the residential neighborhood. As a means to further bridge the realms of the pedestrian and the car, the building presents an urban facade on Olympic which reveals to the motorist the convergence of pedestrian movement between the more public programs within. The main components of the program are configured to interact while maintaining their spatial differences — they function independently yet also, through a manifold circulation network, encourage intermingling and crossing of paths between.

Whether separated by gaps or interlocked these components are connected by a continuous circuit thought of as both an extension of the life of the boulevard, and as a version of the "walking gallery" found in Korean Garden design. This spatial sequence occurs in different forms and at different speeds — a slow route: from the garage or lobby and gift shop, moves past the cafe through the changing exhibition, past the library/lecture hall, through the permanent collection and sculpture court, and out to the roof garden which bridges views to downtown and the coast. The rooftop is where the slow route and fast route (a flying stairway through the void space) meet.

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Adapted example is the instant reply. It's already controversial whether or not they should show instant replays because people
don't realize when you look at something in replay, it doesn't necessarily talk about what really happened. To understand that that kind of
This article describes and illustrates the process that was adopted for the design of a summer house in Jordan. The rich history of Jordanian residential architecture, combined with a prevailing dissatisfaction with current practice, prompted the investigation of a design methodology which seems to address both of these concerns.

As he describes the current situation Ragette, "Noble restraint has been replaced by obtrusive extravagance, intricate gimmicks have supplanted the simple honesty of the stonemason's work, misunderstood modernity competes with artificial reinterpretations of traditional forms." This being the case, the most fundamental issue became finding a contemporary solution which is both understandable and meaningful to Jordanians. The adopted process is part of a tradition that attempts to learn from the past and apply its lessons in the present. It does not wish to encourage the repetition of style or revival of historic elements. The goal is to abstract and analyze a notable precedent; to extract formal attributes of its overall composition and the relations between its individual geometric and spatial elements; and finally, to apply the results of the analysis in activities of form-making.

Using the analogy to language, Alexander states that "When learning a language we listen to statements by others, unconsciously invent the rules which we think must govern those statements, attempt statements based on our invented rules, then adjust the rules as we are corrected by other competent speakers of the language. Once the rules have been 'internalized' in this fashion, one can create an endless number of creative yet understandable statements."
It's very interesting to talk about that though that we would consider spontaneity as opposed to the actual science of reversing the film and
The building chosen for analysis is the turn of the century residence of Abu Jaber in the city of Salt. The design of Abu Jaber exhibits a degree of complexity which is evident in its plans and sections. The second level is comprised of three, partially overlapped, Central Hall configurations. The derivation of the geometric structure of the plan reveals an overall L-shape composition comprised of the sum of four congruent squares arranged in a linear fashion. The transformation of the rectangular bar into an L-shape is a result of the addition of one of two smaller squares constructed in the fifth column of the derivation. At the spatial level, the extruded plan indicates a band of densely packed enclosed cells. This band stems from a wall on the West side and forms another L-shape as it turns into two larger cells on the East side. From a compositional point of view, this indicates a part of two overlapped L-shapes of similar orientation and different size. Furthermore, the overall footprint of the plan is determined by the previously described geometry except for an irregular portion which is subtracted to accommodate the irregular edge of the site on the North side. The overall geometry of the transverse section of Abu Jaber is a square. Two smaller squares which share the lower left-hand vertex of the larger one determine the location of the walls and floors. The result is an interesting flow of space. The composition of this section as described is inclusive to passive cooling and literal vertical transparency.

The site for the new house in Beit Ziraa is an orchard of apples and nectarines. It is surrounded by similar orchards and fields. Predominant summer breeze is primarily from the Northwest. There are open views towards an open landscape of gently rolling hills in all directions except for the Western side. That side is bound by the thick foliage of the trees along the edge of the neighbors site. The two sites are separated by a side street. The main access road is due South.
The form of the new building derives its geometry and spatial structure from those principles extracted from the plan and section of Abu Jaber. The overall L-shape was oriented so as to create an enclosure facing the rest of the site. The smaller embedded L-shape creates a buffer between the building and the street to the West, and between the building and the neighbor to the North. The spatial composition is based on a system of interlocking L-shapes organized around three overlapping squares. Also a product of geometric and spatial transformation, the transverse section of Abu Jaber has been adjusted to fit the new site and program. It is oriented in relation to the prevailing summer wind to make use of its inherent passive cooling capabilities. The non-orthogonal site lines to the North and West have been negotiated through the rotation of the Eastern, most pronounced, square of the terrace on the ground level. This transformation corresponds with the shift in the square grid of the trees.
ety without patience. That they can't wait. / That's why I ask who's questioning. I just think that moving forward in the way that we
have been isn’t being questioned because people don’t want that instant replay. People don’t want to have to look back and to analyze the
nomena of whatever it is. Whether it's in sports or whether it's ten years ago I've never heard of the internet. I didn't have e-mail.